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LIVING PATHOLOGY*

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Living pathology is the important contribution of modern surgery to the medical sciences. It is the study of surgical diseases in their various stages of activity, either a return to the normal or the destruction of life, in contrast with dead pathology, which is based on the study of terminal tissue changes after the somatic death of the individual. This study of living pathology, especially in surgical diseases of the abdominal viscera, has banished old misconceptions of their clinical expression, and has given to present day diagnosis a refinement which existed only in our dreams in former days. It has been truly said:

> 'Tis man's worst fault to let the things
> That have been run to waste, and in the
> Unmeaning present sink the past.

The understanding which gives a meaning to present-day surgery has been developed from a knowledge of the faltering steps of scientific progress up to the creation of living pathology. Surgical history may be arbitrarily divided into three epochs. From the dawn of time to the eighteenth century, this ancient art was plied in complete ignorance of the natural processes of disease. While the acumen of observation of our forbears excites our admiration, it does not blind us to the crudity of their empiricism. With the advent of that wonderful transition era, from the darkness of medieval social, economic and moral institutions to the light of modernism, came the emancipation of medicine from the routine and thraldom of authority. To Morgagni, who introduced anatomic and pathologic thinking into medicine, must be accredited honors similar to those accorded the leaders in statesmanship, art, literature and the culture of a marvelous Renaissance. He marks the beginning of the second epoch, the age of dead pathology. The impetus given to clinical medicine by the introduction of pathologic study, together with the continuation of experimental research, begun by Galen to find perfection in Harvey's illustrious work, was such that medicine sought separation from art, its ancient mistress, and became espoused to science, a union that represents the turning point in the development of medicine. Its crowning glory rests with that child of a philosophic mind which the present has christened the living pathology.

The father of this infant prodigy, which in a few years has grown to dominate surgical thought, is Lawson Tait. Observation of diseased processes through the open laparotomy wound enabled Tait to solve the riddle of the so-called broad ligament hematomas, which he discovered were due to extra-uterine pregnancy. In like manner he showed that the numerous infections of the female pelvis were, in the vast majority of instances, secondary to infection of the fallopian tubes, thus supplying the key to what had previously been known only as pelvic cellulitis. As a natural result of Tait's observations it was found that many of these disease processes could be arrested in their trend toward terminal or dead pathology.

John Hunter was undoubtedly the giant intellect of the age of dead pathology, while Lawson Tait merits the honor of having placed living pathology as the foundation of rational surgery. This contribution, together with asepsis and anesthesia, is the Promethean gift of all time to clinical surgery. The leaders in medical science, as in the other sciences, have added luster to their age, not by the elaboration of details, but by the evolution of far-reaching principles, destined to guide practice in many instances through centuries of darkness. This is evident when we recall that ancient medicine was based entirely on philosophic reasoning with its inherent fallacies. With the introduction of experimental medicine and the awakening appreciation of the relative rôles of cause and effect in disease, medicine emerged from behind the dark veil of superstition. For almost two centuries the practice of surgery has been based on knowledge gleaned from the study of clinical symptoms and dead pathology, and the value gained is inestimable. Perhaps two centuries more will elapse before the medical body politic is purged of the false teachings unavoidable in an age so pregnant with colossal truths, but this can neither cast opprobrium on nor dim the luster of an era so wonderful in scientific progress as ours.

When Lister opened the doors of surgical possibility with the golden key of Pasteur's discovery, the new science of living pathology awaited but the master touch of Tait to make it our common possession. Only a few years have passed since then, and "the inaccuracy of thought which may come from a too exclusive devotion to the pathology of the dead" has been displaced in the minds of many by an accuracy born of attention to the pathology of the living. The progressive surgeon of today indulges the hope of that millennium when the symptoms of abdominal disease will create in the mind of every practitioner of medicine the image of living pathology. When that time comes, the phrase of the modern internist may perhaps survive, but only as a curiosity of a dead medical language; the gastro-enterologist, instead of wasting valuable energy and time in the creation of a meaningless terminology, will hasten to the side of the operating surgeon to learn the fundamental truths of living pathologic processes. Teachers of medicine will not indulge

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in word-pictures painted in the colors of self-delusion; endowed chairs of internal medicine will demand of the incumbent attendance at the side of the surgeon to observe and confirm the primary pathologic processes in the living. Those of you who come face to face with the difficult problems of abdominal diagnosis will bear a lighter burden if you remember the advice of Moynihan when he says: "I would urge on all those engaged in the practice of medicine the desirability of following their patients to the operating table whenever opportunity occurs. The lessons there to be learned will in practice be of a value beyond all reckoning, and interest in the daily work will thereby be quickened to an unaccustomed degree."

Let us consider the development of knowledge relative to the living pathology of that most frequently diseased abdominal structure, the appendix. The suggestion of Grisolle, in 1837, to open and evacuate abscesses pointing anteriorly in the right iliac fossa, was made in ignorance of the origin of the pus. For centuries the pathology of the dead-house has failed to connect the widespread intra-abdominal lesions, to which death is due in appendicitis, with their origin in infection proceeding from that organ, so insignificant in size and so big in anatomic and physiologic importance.

To the acute mind of Reginald Fitz we owe the arguments which turned the blazing light of living pathology on the right iliac fossa, thus dispelling the mystery and revealing the truth. The cecum was cleared of the odium attached to it by the term typhlitis and perityphlitis. The results of early operation demonstrated the appendix to be the starting point of the inflammation of that region. The bacterial origin of the disease was substantiated. The march of infection in all its stages could be seen and understood. Ulceration, gangrene and perforation of the organ and the involvement of the adjacent peritoneum with spreading peritonitis, or the formation of adhesions with the limitation of the infection and the production of periappendicular abscess; all these processes were easily understood by the opportunity afforded to observe active disease processes, which is living pathology.

Not only were the acute conditions resulting from disease of the appendix cleared up, but the frequency and importance of chronic disease became evident. It is now known that the appendix may be the seat of disease without causing symptoms of sufficient moment to excite attention. It is not at all infrequent to find an appendix to have become thickened, scarred or completely obliterated without any knowledge on the part of the patient that he is harboring a diseased organ. We also now know that a diseased appendix may express itself through some other mouthpiece and become confused with organic disease of the stomach or duodenum or the intestines. By reflex action it may cause spastic contractions of the pylorus, pylorospasm, giving rise to symptoms purely gastric in character; or it may affect the secretion and cause the so-called secretory neuroses. Again the peristalsis and functions of the large or small bowel may be disturbed, also by reflex influences, giving rise to decreased or deficient peristalsis, with constipation, flatulence or diarrhea—so-called intestinal indigestion. This appendicular dyspepsia has been well, though incompletely, defined by Mansell as "a group of symptoms and perhaps signs which point so strongly to organic disease of the stomach or duodenum that it is only by a most careful history or by supervention of definite appendicular symptoms that a correct diagnosis is possible."

Furthermore, disease of other viscera of the abdomen are now with increasing frequency being connected with the functional disturbances due to the presence of chronic appendicitis or to a chronic bacteremia or toxemia induced thereby. It is more than a suspicion that gastric and duodenal ulcer, and inflammatory diseases of the biliary and pancreatic ducts, may often owe their origin to a chronically diseased appendix. Tubal disease and sterility of the female also has been shown to be a consequence of appendicular disease in many cases. Although today the advantage of early operative treatment of acute appendicitis is quite generally recognized, we still frequently enough see the results of neglect in acute appendicitis, which, despite a universal knowledge of the disorder, enables it to retain its distinctive "captaincy in the army of death." In acute lesions of the abdominal viscera, however, opportunities to observe the widespread effects of the disease are rare in comparison with our experience of thirty or even twenty years ago. But the reverse is true with regard to chronic inflammatory processes and the less frequent neoplastic diseases of the appendix.

Rarely a day passes without bringing the surgeon the opportunity, by the operative demonstration of a chronically diseased appendix, to dispel the delusion of a subacute gastric or some fanciful upper abdominal neurosis. These are mistakes of interpretation of the language of the living pathology—mistakes which, I regret to say, frequently condemn the sufferer to chronic invalidism or write his epitaph as a martyr to medical procrastination.

The practical value of a knowledge of living pathology lies not alone in increased accuracy of diagnosis, but also in the recognition of certain limitations of diagnostic possibility. It is beyond the power of man to differentiate, in certain instances, chronic disease of the gallbladder, stomach, duodenum, pancreas and appendix. Living pathology has taught us that disease of one or the other of these organs may, and usually does, destroy their harmony of function, and that clinical symptoms are but discordant notes common to disease processes in all. The gastric symptoms of chronic pancreatic lymphangitis, cholecystic and appendicular disease express their effects on the gastric mucosa by the action of toxins reabsorbed from the diseased area by functional disturbances depending on a common nerve supply. So rarely do we fail to find an organic basis for these digestive troubles that dyspepsia as a clinical entity has practically passed into the oblivion of surgical antiquity. It is true that disturbances in the sensory, secretory and motor functions are not infrequently dependent on systemic disease or more rarely on defects in the mechanism of nervous control, but the entire digestive tract must be studied carefully and systematically before gastric symptoms may be attributed to these causes and be termed "idiopathic," a term which, in the great majority of cases, indicates our inability to interpret the living pathology.

I have sometimes been misled to open the abdomen in the presence of predominating gastric symptoms, only to find the pyloric sphincter to be the seat of spasm of toxic or reflex appendical irritation, as evidenced by the complete relief of symptoms following appendectomy. And on more than one occasion I

have opened the stomach in search of the local cause of postprandial pain, hyperchlorhydria or pylorospasm, to find disappointment in the presence of a perfectly healthy mucosa. Even hematemesis has been disproved as a symptom of simple ulceration in a number of instances, and found to depend on the toxic effect on the arterioles of the gastric circulation, or of poisons generated in a distant and diseased organ with the production of simple erosion of the mucous membrane, as described by Dieulafoy. Chronic simple ulcer of the stomach and duodenum is believed by Mayo, Robson and others to result from oral and other septic processes, and recently the frequent association of chronic appendicitis with duodenal ulcer has been explained in the same manner.

It is not my purpose to discourage attempts at differential diagnosis, for this is of the utmost importance and, as a rule, possible; but more intelligent by far is the physician who recognizes the voice common to the living pathology of various structures, than he who attempts to localize the trouble to a particular organ, and then attributes it to functional derangement.

Let us consider the influence of our knowledge of the living pathology of the pancreas and biliary passages on the modern conception of their diseases. Bacteriologic investigation of the contents of the diseased gallbladder has clarified our ideas of the origin of cholecystic disease, and the living pathologist traces, in sequential order, the steps in the progress of the disease from the reception of the micro-organisms through the stages of acute and chronic inflammations and their complications, gallstone formation, precancerous tissue changes and, finally, carcinoma. In 1896, Riedel, in operating in a case of gallstone disease, discovered a chronic pancreatitis, which he differentiated from primary cancer of the head of the organ. Since that time the opportunity for observation which has been afforded by surgery has established the fact that the pancreas is frequently the seat of chronic inflammatory alterations. The touch of the surgeon during life has revealed that which postmortem pathology had overlooked. It has been possible to trace the path of infection from the gallbladder through the lymphatics lying in the right free border of the gastrohepatic omentum to the peripancreatic plexus. The lymph nodes clustering about the pancreas may be seen enlarged, and from their anastomosis with the intrapancreatic lymphatics the assumption is fair that the pancreas is not infrequently infected in this manner. To this early inflammatory disease of the organ the name pancreatic lymphangitis has been applied. That it is a precursor of the more serious and pronounced changes in the pancreas there can be no doubt.

This fact of living pathology has supplied us with the key for treatment of this form of pancreatitis through drainage of the biliary tract. When the source of the lymphatic infection is thus removed, recovery of the pancreas is the rule, as has been demonstrated on occasions when subsequent operation became necessary for some other reason, as well as by the subsidence of symptoms after operation.

The early hope of the surgical relief of diabetes, when this condition is secondary to chronic inflammatory processes in the pancreas, has not been fulfilled. Destruction of the islands of Langerhans by cicatricial contraction of inflammatory tissue bespeaks a process too far advanced for relief by drainage. It denotes a parainfectious condition, the terminal change in the surgical conception of a process that probably would have been amenable to operation at an earlier stage, had the physician in attendance heard in the digestive complaints, not the voice of functional disturbance, but an echo of the cry of distant organic disease.

Obstinate constipation is another field formerly considered exclusively medical and beset with unfounded theories, which are now being subjected to the search of the living pathologist. Sir Arbuthnot Lane, who is most active in this work, has described with great plausibility certain mechanical factors in the form of bands and kinks which embarrass peristalsis and give rise to intestinal stasis. Whether or not we are willing to go all the way with him in his ideas, we must acknowledge that there is truth at the bottom of the well and that it will in the end rise and prevail as a result of demonstrations on the living subject.

That duodenal ulcer is today so frequently observed is exclusively due to the necropsy in vivo. Only a decade ago ulcer of the duodenum was considered a rare lesion and its symptoms were parading under many painful gastro-enterological names, such as hyperchlorhydria, gastralgia, chronic gastritis, etc. Gastric ulcer was thought to be far more common than ulcer of the duodenum. Today the order of frequency is reversed, and a typical syndrome of symptoms has been worked out by means of which the more typical cases may be diagnosed with great accuracy. Still there are many ulcers which give but little evidence of their presence and it is easy to overlook the lesion.

If further illustrations were necessary to prove our contention of the radical difference between living and dead pathology, we need but to contrast the postmortem records of any large hospital with the clinical statistics based on operative findings. Search the records of any pathologic laboratory, and you will rarely find an instance of peritonitis secondary to a perforation of a chronic calloused ulcer of the duodenum. Yet it has been our privilege to operate on fifty-two patients during the past ten years with this alarming complication of ulcer, and we have had fifty recoveries.

As another example, I will mention that instances of death from calculous obstruction of the common bile duct are rare in hospital records. Would not clinical teaching based on records be highly erroneous? The practical significance of the matter is that numerous patients, as a result of these conditions, die outside of the hospital, and that the few are saved by following the advice of an intelligent physician who, cognizant of the living pathology, realizes the necessity of immediate surgical consultation. Furthermore, bacteriologic study, in cases of ruptured gastric and duodenal ulcers, has taught us that during the first twelve hours the peritoneal fluid frequently is sterile, and in this we find the reason for the almost perfect success in early operative interference. This early sterility of the extravasated fluid enables us not only to undertake closure of the perforation, but also plication of the duodenum and posterior gastro-enterostomy as well, procedures that in the great majority of cases relieve the patient of future ulcer trouble and offer an assurance of operative success almost equal to the certainty of death when, after the lapse of a few hours, the peritoneum has become infected. The profound predisposition to cancer of a chronically ulcerated area of the pyloric antrum is one of the startling facts exposed to the light of day by the aseptic scalpel.

Knowledge of the cellular pathology of neoplastic tissue removed at operation has completely rearranged our ideas of cancerous change, and forms the basis of the only rational treatment—early and radical excision of ulcers. The microscopic demonstration of the very earliest malignant changes in the bases of chronic ulcers of the stomach in association with precancerous inflammatory tissue has added the necessity of excision of areas of potential carcinoma. Indeed, this relationship has been so definitely proved that it is the aim of every surgeon whose judgment is based on living pathology to prevent the necessity of radical operations on the uterus, stomach, breast and other organs by the early recognition of malignant degeneration of primary benign tissue changes.

May I venture to call attention to another of the contributions of living pathology toward the saving of human life? This relates to our present knowledge of renal tuberculosis. Formerly, when death occurred from tuberculosis of the kidney, it was the rule for advanced tuberculous processes to be found elsewhere. Very frequently both kidneys were involved and, as a rule, the bladder showed extensive tuberculous ulceration. By the study of renal tuberculosis in motion, several important facts have been apparent: First, that tuberculosis of the bladder is never primary, but always secondary to disease of the upper urinary tract or of the genital tract, and that it most frequently follows infection of the kidney. Second, it has been found that in the beginning surgical tuberculosis of the kidney is usually unilateral. Disregarding the abstract question of whether the infection be distinctly primary or whether it be secondary to tuberculosis of some other portion of the body, it is true, at least, that the renal lesion may be the only active focus of tuberculosis in the body. This knowledge has led to nephrectomy for renal tuberculosis, by which many lives have been saved.

We could multiply examples in the citation of various surgical diseases of the abdominal viscera to illustrate the contributions of living pathology to a clearer understanding of conditions which so frequently manifest themselves through the medium of gastric symptoms, but I trust enough has been said to give you a glimpse of the pathway of progress.

Only by standing at the elbow of the surgeon, let me repeat, can the internist hope to attain proficiency in diagnosis and the proper conception of treatment in these conditions. Observe that I say the elbow of the *surgeon*, not the operator, for there is a sharp distinction between the mechanical practitioner of surgery and the true surgeon, who is a specialist, not in operating, but in the field of surgical disease, skilled in diagnosis and prognosis, aware of the dangers and limitations of his art, and as ready to withhold his hand at the bidding of science and conscience as he is bold to attack the condition which, unchecked, threatens the patient's welfare.

A duty, says the poet, is a demand of the hour. The duty of the general practitioner is recognition of the advantages of studying the living pathology and a willingness to employ every means to this attainment. To those whose symptomatic treatment of surgical disease is gilded with the self-delusion of rationality, I would commend that sublime utterance of Polonius:

> This above all: to thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man.

ACUTE NEPHRITIS

A STUDY OF FORTY-FIVE CASES

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This paper is based on the study of forty-five cases of nephritis occurring on the medical service of base hospital No. 108 at Mesves hospital center, France, during the winter of 1918-1919. About half of the patients were in our own hospital while we were doing routine urine examinations on all patients. With one or two exceptions, none of these men complained symptomatically, and all undoubtedly would have been sent back to duty except for the discovery of albumin, casts and blood in their urine. All cases sent to this hospital were convalescent from some disease or wound and were supposedly on the road to recovery. The other half of our nephritic cases were transferred from other hospitals in this center, and most of them had shown symptoms of nephritis, a few even having had convulsions. Combining the two groups gives us a series of cases varying from the mildest to the most severe.

It was impossible to do any blood-chemical work, or in fact any clinical work except the simplest. We were anxious in our work to determine, if possible, first, the etiology of a nephritis occurring at an age usually free from such a condition, and secondly, the prognosis. Have we any means of determining which cases, if any, will clear up completely, leaving the kidney practically undamaged, and which cases will continue and finally terminate in a chronic nephritis or death? Of course too short a time has elapsed to make any positive statement, and we can only report which cases on discharge showed a urine of good specific gravity, free from albumin, casts and blood, normal blood pressure and no symptoms. We have, however, taken the names and addresses of all these patients, and hope to be able to follow them in the future and determine the ultimate outcome.

ETIOLOGY

Of forty-five cases, eleven gave a history of probable kidney disease in their immediate families. This does not seem to be above the average when we consider how common a condition nephritis is. Dividing the series roughly into two groups, graded as to severity, the first group showing dyspnea, headache, edema and marked urinary findings, the second group showing few or no symptoms except the urinary findings, we found that seven (35 per cent.) out of twenty in group one gave a positive family history, while only four (16 per cent.) of twenty-five in group two were positive. It would thus seem that a patient with a positive family history was a little more apt to develop a severe case than one whose family history was negative.

In taking the past history the following diseases were particularly inquired into: scarlet fever, smallpox, diphtheria, malaria, typhoid fever, pneumonia, pleurisy, tonsillitis, rheumatism and venereal disease. No particular effort was made to determine the history

as regards tobacco and alcohol. In a general way it may be said these patients drank very little and smoked a good deal. Of forty-five patients sixteen (35 per cent.) gave a history of tonsillitis, a high percentage, but to be expected when we consider how common a disease tonsillitis is. Twelve (27 per cent.) of these patients gave a history of typhoid fever and this rather surprised us, as it must mean that typhoid is or has been a very common disease in the United States, or else that this group shows an unusually high percentage, and we may consider its occurrence as predisposing in some way to a later nephritis. In this connection another interesting point comes up: All these soldiers had been vaccinated against typhoid. Their urine was examined as they entered the Army, and they then received the vaccine, but their urine may not have been examined again until they were sent to a hospital for some wound or illness. It would be interesting and might prove valuable to examine the urines of a thousand men before and just after receiving their typhoid inoculation, and determine whether there are evidences of kidney irritation which might account for some of the well known symptoms of reaction, and also for this later development of an acute nephritis when an unusual strain is thrown on a slightly damaged kidney.

There were seven cases of rheumatism, four each of malaria, pneumonia and diphtheria, and three each of scarlet fever and smallpox. One patient gave a history of syphilis with a negative Wassermann.

At the suggestion of Lieut. Horace Gray, M. C., who was making a study of similar cases at Vichy, and who kindly came up to Mesves to compare notes and to give us the benefit of his experience, we went into the question of salt and meat consumption. Of forty patients, twenty-four (60 per cent.) said they customarily took more salt than normal persons, and twenty-eight (70 per cent.) ate more meat. Of fifty normals, mostly patients in the same ward, thirteen (26 per cent.) said they thought they ate more salt and meat than was usual. There is therefore a possibility that excessive consumption of salt and meat may have an etiologic bearing on the development of the disease.

RECENT HISTORY

It was our first idea that the immediate cause of admission to the hospital, influenza, pneumonia or gunshot wound, might be the exciting cause of the nephritis in a patient particularly susceptible, but careful questioning brought out the fact that practically all these patients suffered from some symptom, nocturia, dyspnea, headache, or even edema, before the onset of the condition which caused their admission to a hospital. In some of the cases, of course, the patient was admitted for his nephritis and in these no antecedent history of disease could be obtained as a rule. At Lieutenant Gray's suggestion we made a special effort to obtain a history as to the occurrence of diarrhea, and found such a history in fifteen (37.5 per cent.) of forty patients questioned. But it must be born in mind that diarrhea is a very prevalent disease at the front, and the great majority of soldiers have it at some time. Several of our patients stated definitely that they alone of their entire platoon or company escaped without having it, so to our minds diarrhea as an etiologic factor is of doubtful importance. Some of these diarrheas were undoubtedly a streptococcic infection, and theoretically there is no reason to believe that they could not cause a nephritis as easily as a streptococcic throat infection could. Throat cultures of twelve patients gave two positive for streptococcus hemolyticus, not more than one would expect to find in normal individuals.

We were finally compelled to fall back on the hypothesis that the attack was due to exposure to dampness and cold, insufficient nourishment and excessive physical and mental strain, to which the men were occasionally subjected, factors quite foreign to their ordinary civil life.

The earliest symptoms complained of were, as a rule, nocturia and dyspnea. Headache was a rarity and in not a few patients the first thing noticed was edema of the face or feet. A most typical case was that of one of the cooks of our organization, who had been on night work (but otherwise had suffered no hardships at all), and who came in simply because he felt tired and wanted a few days' rest. His urine showed a large amount of albumin, with red blood cells and casts. Tracing some of the histories back, it was surprising to find that some of these men had gone through a month or two of arduous field service while they undoubtedly had their nephritis. Two of the patients had convulsions (both of these cleared up entirely).

PHYSICAL EXAMINATION

This showed diseased tonsils in eleven cases, and pyorrhea or bad teeth in nine. The heart was normal in forty-one cases and normal except for accentuated aortic second sound in four more.

The Wassermann test was negative in forty cases, plus minus in three and one plus in two. None were two plus. Certainly syphilis cannot be considered an etiologic factor. Furthermore, these findings tend to make one disbelieve newspaper tales to the effect that the American Expeditionary Forces are especially subject to venereal disease.

Eye examination revealed the fundus normal in forty cases, with slight changes in two. No case showed any hemorrhages.

Blood pressure was taken on admission and then at intervals varying from one to seven days. Of forty-four patients, nine had a systolic pressure above 160 when it was first taken and thirteen had a diastolic pressure above 90. All of these thirteen cases came in the group of severely ill, and it seemed to us the determination of the diastolic pressure was of the utmost importance in judging the gravity of the condition. In one case in which the patient was bled (in another hospital) the blood pressure fell from 200 systolic and 120 diastolic to 150 systolic and 110 diastolic, with marked improvement in the patient's condition. In not a single case did the blood pressure fail to fall to normal or below after rest in bed and restriction in diet.

At the suggestion of Lieut.-Col. Elliot P. Joslin, M. C., medical consultant of the center, two-hour renal and phenolsulphonephthalein tests were done in all cases and the results are listed in Table 1. The following description of the two-hour renal test and the grading of the phenolsulphonephthalein output is taken from an article by Capt. Warren T. Vaughan, M. C.[1]

Patients were given their ordinary amount of food and liquid at the accustomed time of day, but no fluid was allowed after the evening meal (about 5 p. m.). This restriction was difficult to enforce, and we are

1. Vaughan, W. T.: J. Lab. & Clin. M., June, 1918.

not sure the men did not occasionally get some fluid. However, our water was all chlorinated, and the men drank very little of it; nor was water very plentiful, so that we do not think the error here was considerable. Another point to be considered is that the men received coffee two and sometimes three times a day. In a way, these two factors are on opposite sides of the scale and would tend to balance. At the noon meal each man received a teaspoonful of salt, distributed as he pleased. At 7 a. m. on the day of the test each man voided and discarded the urine. Then he voided at 9 a. m. and every two hours up to 7 p. m. The quantity and specific gravity of each of these specimens were determined. The entire night urine from 7 p. m. to 7 a. m. was saved as one specimen, and the quantity and specific gravity were likewise determined. Normally the specific gravity should be at times above 1.018, particularly after meals. With the specific gravity constantly below 1.018 there is present "fixation of specific gravity." There should be some definite variation of urinary volume among the two-hour specimens. The night specimen, including the 9 p. m. and 7 a. m. voidings, should not measure over 400 c.c. in volume, and its specific gravity should be 1.018 or above.

TABLE 1.—SCALE FOR MEASURING DEGREE OF IMPAIRMENT OF RENAL FUNCTION

		Night Urine		Variation in Sp. Gr. when Highest Is			
		C.c.	Sp. Gr.	18	17-15	14-13	12
Normal.....	0	400	18+	9+			
Slight.....	+	401-600	16-17	8-5	6+		
Moderate.....	++	601+	15—	4—	5-4	6+	
Marked.....	+++	.....	.....	3—	5-4	6+	
Maximal.....	++++	.....	.....	...	3—	5—	6+

+ means plus or more.

PHENOLSULPHONEPHTHALEIN TEST

One c.c. of phenolsulphonephthalein was injected deep into the lumbar muscles, the patient first having voided urine and drunk two glasses of water. The urine was then voided at the end of one hour and two hours, the amount of phenolsulphonephthalein excreted in each specimen determined, and the results added together. While anything over 50 per cent. is usually considered normal, for the sake of uniformity in comparing with the two-hour renal tests and our clinical grading we have again followed the scheme of Captain Vaughan and considered an output of 0 per cent. to 10 per cent. as ++++; 11 to 24 per cent., +++; 25 to 39 per cent., ++; 40 to 59 per cent., +; and above 60 per cent., 0.

Clinically we graded our cases on admission and on discharge in four classes: (1) those that were normal, or 0; (2) cases showing no symptoms, but a little dyspnea and few urinary findings, or +; (3) cases more marked with dyspnea, edema, high blood pressure, etc., or ++ and +++; and (4) those cases in which there were convulsions, or ++++.

In Table 2 we give the case number, clinical condition on admission, blood pressure on admission, first two-hour renal test, first night test, second two-hour renal and night tests, first and second phenolsulphonephthalein tests and clinical condition on discharge. The first two-hour renal and phenolsulphonephthalein tests were made as soon after admission as possible, and generally within three days, and the second two-hour renal and phenolsulphonephthalein tests were made after from one to three weeks. Theoretically these various tests should correspond to some degree; that is, if the first two-hour renal test shows ++ the first night, the first phenolsulphonephthalein test should be about ++. If the patient improves, the second two-hour renal, night and phenolsulphonephthalein tests should improve to about the same degree, but we find this true in very few of the cases, and in some the discrepancies are marked. For example, in Case 5, clinically + on admission, first two-hour renal ++++; first night ++; second two-hour renal 0; second night +++; phenolsulphonephthalein 0; clinically on discharge 0. Case 7 shows much the same discrepancy. Case 9 shows two normal two-hour renal tests with two night tests of ++ and +++. In Case 13, the patient, clinically a severe nephritis on admission and discharge, gave two normal two-hour renal tests and two night tests of +. Both phenolsulphonephthalein tests showed +. Case 41, in which the patient died, gave four normal two-hour renal and night tests, but the phenolsulphonephthalein tests were ++++ and +++.

TABLE 2.—RESULTS OF TESTS

No.	Clin. Adm.	Blood Pressure	1st 2-H.	1st N. T.	2d 2-H.	2d N. T.	1st PH.	2d PH.	Clin. Disch.
1	2+	190-110	4+	4+	2+	4+	2+	+	+
2	+	118- 74	+	+	0	+	0	...	+
3	3+	170-100	0	0	0	2+	0	...	0
4	+	114- 74	0	2+	0	3+	+	0	+
5	+	110- 80	4+	2+	0	3+	0	...	0
6	+	120- 60	+	3+	0	0	0	...	+
7	+	128- 68	+	3+	0	4+	2+	0	0
8	2+	128- 66	0	0	0	0	+	...	0
9	+	128- 90	0	0	0	3+	+	...	0
10	2+	130- 68	2+	3+	4+	4+	2+	+	+
11	+	168- 90	0	2+	0	4+	+	...	0
12	+	120- 80	0	+	0	0	0	...	0
13	2+	160-100	0	+	0	+	+	+	2+
14	+	130- 70	0	+	0	+	0	...	+
15	+	116- 64	0	0	0	0	0	...	0
16	+	120- 64	0	+	0	2+	0	...	+
17	+	140- 90	0	0	0	0	...	...	+
18	+	138- 90	0	+	0	0	...	...	0
19	2+	130- 65	0	0	...	...	2+	0	0
20	2+	105- 60	2+	2+	0	...	3+	+	2+
21	2+	110- 65	0	0	...	...	0	...	2+
22	4+	220-130	0	3+	0	+	0	...	0
23	+	110- 65	0	0	...	...	0	...	+
24	3+	210-160	+	+	+	0	2+	+	+
25	2+	120- 65	0	0	0	...	...	...	0
26	2+	158-110	2+	3+	3+	3+	2+	3+	2+
27	2+	180-120	3+	0	+	+	2+	+	+
28	+	160- 80	4+	4+	4+	4+	2+	2+	2+
29	3+	165- 85	+	3+	4+	4+	4+	3+	+
30	+	125- 85	0	0	0	...	+	0	+
31	+	95- 55	0	+	0	...	+	...	0
32	+	136- 75	4+	3+	...	...	+	0	0
33	2+	140- 92	0	+	0	0	2+	0	+
34	2+	164-100	0	0	0	+	0	0	0
35	4+	150-100	0	0	0	0	+	0	0
36	+	135- 66	...	...	...	...	0	0	+
37	+	170- 70	0	4+	0	3+	+	+	0
38	3+	168-116	0	0	+	3+	+	2+	+
39	+	.....	0	...	...	...	...	...	+
40	+	100- 70	+	0	0	0	0	0	+
41	3+	160-100	0	0	0	0	4+	2+	Died
42	+	130- 66	0	0	0	0	+	2+	0
43	+	164- 98	0	0	+	+	0	0	0
44	+	126- 56	0	+	0	4+	0	0	0
45	3+	150-100	0	4+	+	3+	0	0	+

Our final conclusion was that, while both tests were of value in prognosis, the phenolsulphonephthalein test is superior for the type of nephritis we were studying, both as regards ease of administration and accuracy. In the latter test the patient has nothing to do, and cannot spoil the result by carelessness or design, while in the two-hour renal test he can make the entire conclusion of no value by disobedience of orders, such as drinking a glass or two of water at night, or by discarding some of the urine which should be saved. It is very probable that the two-hour renal test is of more value in cases of chronic nephritis than in the type of cases we were studying. The phenolsulphonephthalein

test we both felt was extremely valuable, and several times it enabled us to give favorable prognoses in cases that clinically appeared almost hopeless. This was particularly true of the patients represented in Cases 3, 22 and 35, all of whom appeared extremely sick on admission, but gave good phenolsulphonephthalein outputs, and eventually were discharged as clinically well. Improvement in the second phenolsulphonephthalein output over the first generally coincided with improvement in clinical appearance.

In general we would say that both tests should always be used and can be used by every practitioner, as they require no complicated apparatus nor laboratory training. An outfit for doing the phenolsulphonephthalein test can be purchased for about $50, and the two-hour renal test requires only a urinometer. In the case of the two-hour renal test great precaution should be taken to follow the rules exactly, as an unintentional slip on the part of the patient may lead to serious error in the interpretation of the results.

TREATMENT

Patients were kept in bed, as far as possible, as long as their urine showed much albumin. They wore flannel pajamas and slept between blankets instead of sheets. One end of a hundred-bed ward was partitioned off and several stoves were put in, an endeavor being made to keep this ward warm and at an even temperature. If a patient's urine cleared up entirely and he seemed well he was transferred to the main ward, put on regular diet and allowed out of bed. A careful check was kept on his urine, and at any sign of recurrence he was put back in the nephritic ward. It may be said here that recurrences were rare, and that once a patient recovered from his attack he seemed to do well.

All patients were put on a quart of lemonade without other food or drink the first day they were in the ward. If they presented edema or marked symptoms this treatment was continued for a further period of twenty-four hours. A few of the patients with high blood pressure or marked dyspnea or edema were bled from 16 to 20 ounces with marked relief. Bowels were, of course, kept freely open.

Diet.—It was possible to have a special-diet nurse for the ward, and as nearly as possible patients were given a salt-free diet. Fluids were restricted to about 1,000 or 1,200 c.c. in the twenty-four hours. No meat was given, but occasionally the patients who were improving rapidly received an egg several times a week, or a little chicken. With eggs at twenty cents apiece they did not enjoy this luxury often.

RESULTS

Most of the patients were transferred before any final result could be definitely determined, as every effort was made, as soon as they could travel, to have them sent home, where they could be treated under better climatic and hospital conditions. The majority of the patients stayed from a month to six weeks, and in that time twenty were discharged as apparently perfectly well, nineteen showed traces of albumin and casts in their urine without any other symptoms or clinical signs, five were improved, but showed quite evidently that they still had a serious kidney condition, and one patient died.

Necropsy on the patient that died, performed by Lieut. Wann Langston, M. C., chief of the laboratory, revealed: Kidneys: Normal in size, dark, mottled, capsule stripped easily, cut surface did not bleed, markings indistinct. Microscopic: Glomerular changes not marked; moderate congestion of intertubular capillaries; cloudy swelling and desquamation of tubular epithelium; edema; intertubular hemorrhages. Diagnosis: Acute diffuse nephritis.

CONCLUSIONS

1. The etiology of this acute nephritis is unknown. It seems to occur more often after typhoid fever, and in people who eat too much salt and meat.
2. The blood pressure was usually not markedly increased, and fell to normal after rest in bed. A high diastolic pressure meant a serious condition.
3. The two-hour renal test was of less value in this particular type of case than the phenolsulphonephthalein test. The latter was of distinct value.
4. Apparently most of these patients will recover completely.
5. We considered the restriction of intake to a quart of lemonade, the bleeding, and the rest in bed on a salt-free diet of great value.

EXPERIENCES IN FRANCE WITH SURGERY OF THE GENITO-URINARY TRACT *

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The object of this paper is not to review the literature nor to attempt any general discussion of how wounds of the urinary tract should be or have been treated. Rather, it is to give a notion of the frequency or the infrequency of gunshot wounds of the urinary tract in war, and to report some personal experiences. These are relatively few in number, yet, supposedly, I was fortunately placed for seeing such work. For well over a year, I was with the British army, as a member of the U. S. Base Hospital No. 2, engaged in general surgery, but was also given the care of all genito-urinary conditions that were admitted to the hospital. (No venereal cases were included, as these were treated in special hospitals in the British army.) Two months were spent operating in British casualty clearing stations (advanced hospitals) during periods of military activity. In September, 1918, I was transferred to an American hospital center, as consultant urologist. This was in accordance with a plan which was formulated in the American Army, to assemble the injuries of the genito-urinary system under the care of urologists, at as early a time as possible.

I was sent first to the Mars-sur-Allier hospital center, then to the center of Mesves. The hospitals at the latter place were all taxed beyond their crisis expansion during the latter months of the war, and the proposed segregation of urologic patients in one hospital of the group could not be carried out during this rush period. The demands of general surgery were obviously of first importance in this crisis, and were so urgent that I could personally follow with any degree of care only such urologic patients as were placed in Base Hospital No. 67, where I was in charge of the surgical service.

* Read before the New York Academy of Medicine, March 20, 1919.

INFREQUENCY OF WOUNDS OF URINARY TRACT

I am impressed with two facts concerning war wounds of the urinary tract—the relatively small number of cases in the hospital and the high mortality of these. The relative rarity of kidney and bladder lesions is perhaps explained by the obvious possibility of frequent fatal hemorrhage following wounds of these parts. Various groups of statistics show the kidney involved in from 4 to 9 per cent. of penetrating abdominal wounds, and the bladder in from 4 to 7 per cent. But the number of men with abdominal injuries who live to reach a hospital is only a small fraction of the total number admitted. I have no reliable figures to offer on this point. One American surgeon, in a general operative experience extending over five months in the front area, met with but a single kidney wound, a slight tangential one, and only one of the bladder. Another, whose evacuation hospital work totaled four hundred cases, including a good share of abdominal work, found no wound of either bladder or kidney; and my experience and that of many others were similar.

REPORT OF CASES

In the cases in which I operated at the front, were two gunshot injuries of the lower genito-urinary tract of unusual interest:

The first was a man with machine-gun bullet wounds, the entrance being in the left buttock and the exit in the right wall of the scrotum. In its course, the bullet had completely divided the bulbous urethra, and perforated an old right-sided hernia; this explained the presence of a mass of omentum protruding from the scrotal wall. The cord and testicle were uninjured. The patient had not tried to urinate. Nevertheless it seemed extraordinary that no swelling, induration or ecchymosis was present in the perineum. The urethral lesion was diagnosed by the patient's inability to urinate and my inability to pass a catheter. Operation was performed eight hours after the wound was received. The injured omentum was excised and the hernia repaired. Then, through a perineal incision, an end-to-end suture of the urethra was done, and perineal drainage established proximal to the suture line. The subsequent course was entirely satisfactory up to the fifth day, when the patient was evacuated to the base. As I have heard of two similar cases in which the surgeon felt satisfied with simple drainage of the bladder, I emphasize the importance of immediate suture of urethral injuries, when possible. The results would probably be excellent in many cases, and at the worst the resultant scar would be smaller following suture than would be the case otherwise.

The other soldier referred to also had received a machine-gun wound. The bullet had perforated the posterior muscles of the left thigh and entered the left scrotum. The scrotum was large and edematous, particularly on the right side; a firm elliptical swelling was present in the right inguinal region. No roentgen-ray examination had been made. The general condition was good and no pain was complained of. An injury of the right spermatic cord was diagnosed, and the incision was made over the inguinal swelling. The cord was nearly an inch in diameter. During its dissection, the machine-gun bullet popped out from the depths of the wound and was followed by a gush of blood, which was temporarily stopped by direct pressure. It was then found that the hemorrhage could be perfectly controlled by pressure over both external iliac and femoral vessels, above and below the site of hemorrhage, but not by pressure at either point alone. The incision was extended upward and outward and the external iliac vessels were exposed extraperitoneally. Both artery and vein were found to be nearly severed, and the two ends of both vessels were tied. Following this, the right cord and testicle were removed, and the skin closed with drainage. At the end of thirty-six hours, the general condition was excellent, pulse practically normal, the leg and foot were warm and presented no edema, and the patient was evacuated because of the urgent need of beds.

At the base hospitals, as would be expected, the proportion of urinary wounds was even smaller than in the hospitals of the forward areas. At the Mesves hospital center, early in November, 1918, the number of patients in hospital at one time totaled nearly 23,000. Yet it is worthy of note that I did not see and, in response to direct questions put to the chiefs of all the surgical services, did not learn of a single wound of the kidney at this center.

The only record I have of a case of war wound of the kidney seen before nephrectomy is the following:

The patient, an old English soldier, had received a perforating shell wound, the entrance being in the upper left quadrant of the abdomen and exit to the left of the midline posteriorly. According to the field card, a transfusion of blood had been given at the casualty clearing station and the kidney explored the next day. A hole was found in its cortex, and a fracture of a vertebral process noted. The wounds of entrance and exit were excised, and the kidney was drained. No abdominal exploration had been made. Five days after operation, the man reached us in a very bad condition, with a profuse discharge of urine through the loin. General supporting treatment and care of the wound were given. Five days later—eleven days after injury—there was a sudden, severe pain along the left costal border, accompanied by great respiratory distress and vomiting. When seen by the officer of the day, the patient was pulseless. There was slight improvement during the day, only to be followed by a similar attack which ended in death. Necropsy disclosed an abdomen filled with blood, the spleen very adherent to surrounding tissues, and a third of it torn nearly free from the rest of the organ. Evidently this rupture had been caused by the original injury; there had been profuse bleeding at the time, and a fresh hemorrhage occurred eleven days later.

The one instance of ureteral injury seen was in a Frenchman, who had been shot in the back above the right costal margin. He came to us classified as a chest injury, but examination showed neither chest nor abdominal signs. Hematuria was the only pathologic finding other than the wound of entrance. Cystoscopy proved the blood to come from the right ureter, but a ureteral catheter passed up to the renal pelvis gave a perfectly clear urine, free from blood. Hematuria continued for some days in decreasing amounts, and finally disappeared. In the absence of any signs of urinary infiltration or ureteral obstruction, no abdominal exploration was performed. However, a machine-gun bullet was discovered by roentgen ray in the bony pelvis and could subsequently be felt through the rectum. It was better located by further radiographic and fluoroscopic examinations, with a roentgen-ray catheter in the ureter, and a palpating finger in the rectum moving the bullet. The removal of this foreign body was easily accomplished through a lateral rectal incision.

MORTALITY OF WOUNDS OF URINARY TRACT

As stated above, in this war the mortality of patients with wounds of the urinary tract has been very high. A recent French publication, giving collected statistics, states that noncomplicated bladder wounds have resulted in a mortality of 56 per cent., and of fifteen cases with coexisting intestinal wounds, only one lived. I have records of eleven patients who reached base hospitals with wounds of or adjoining the bladder, and to my knowledge at least six of them died.

As will be seen from the following reports, not only are intraperitoneal and pelvic complications accountable

for the heavy mortality of bladder cases, but wounds in other parts of the body handicap the patient seriously, and materially reduce his chances of recovery.

Of four patients wounded through the perineum, only one recovered. In one of the fatal cases, the urinary fistula, which was demonstrated to come from the bladder, healed promptly after perineal section. But there were other wounds, and later operation was required on an infected knee and on pyemic abscesses of the back and shoulder. Necropsy revealed acute vegetative endocarditis but no infection of the kidneys. Another patient in this group had received a through-and-through wound of one buttock, with comminuted fracture of the sacrum. An extensive débridement had been done at the evacuation hospital. On admission to the base hospital, there was a large tangential wound 8 inches long, with the lower rectal wall fully exposed. Neither feces nor urine leaked from the wound, and there was no further operation done except a revision of the wound with removal of loose fragments of bone. The man died about six weeks after injury. Marked infection of the bladder and ureters and double pyelonephritis were found, but there was no peritonitis.

TREATMENT OF SUPRAPUBIC WOUNDS

Speaking now of suprapubic wounds, I think it advisable, as a rule, to close a bladder wound occurring on the peritoneal surface, but to drain an extraperitoneal opening. A deviation from the latter part of this rule may impair the patient's prospects, as the two following records well illustrate:

One man reached us nine days after being wounded. A bullet had entered the right buttock and had been removed from just under the skin of the right groin. The field card noted that two bladder perforations had been closed by suture and a catheter placed in the urethra and allowed to remain three days. According to the patient, he later voided voluntarily, but the urine had always been bloody after the day of operation. On the train, en route to the base hospital, there was acute retention. The patient arrived in great distress, with his bladder full of blood clots. These were removed by a suprapubic operation under procain. There was found a perforation of the posterior bladder wall in the midline just above the trigone, from which oozed a little blood, not sufficient to require ligature or suture. A suprapubic tube was left in situ for five days, then a urethral retention catheter was employed. Subsequent recovery was uneventful.

The other man referred to had sustained a penetrating machine-gun wound of the abdomen. Two bladder wounds, one intraperitoneal and one extraperitoneal, and a wound of the ileum had been repaired at the evacuation hospital. A urethral retention catheter was tried for four days. In the meantime urine leaked suprapubically; finally the bladder was opened wide. The patient entered the base hospital twelve days after operation with a very dirty, sloughing wound. Special attention was paid to this case in an endeavor to get ahead of the infection, and we were quite at a loss to explain the rapid failure of the patient. Postmortem plastic peritonitis was found, tightly binding together the contents of the lower half of the abdomen; and fully two thirds of the bladder was necrotic.

The importance of removing all loose bits of bone in complicating fractures of the pelvis was especially impressed on us in two instances. The first patient had received a gunshot wound of the bladder, with fracture of the pubic ramus, and other wounds of the right thigh. Suprapubic drainage had been established and bone removed from the bladder at the evacuation hospital. The subsequent history was a long one. The patient was admitted to us in a very weakened state, and continued so to the end. With a retained urethral catheter, the bladder closed in about a week, but marked pyuria persisted. Nothing was gained from a cystoscopy, unsatisfactory because of poor lighting. There was pain only on coughing or on movement of the body in bed, and this was always referred to the pubic bone, the site of the fracture. Abdominal examination was hardly suggestive, and we failed to recognize during the life of the patient the presence of a deep pelvic abscess containing fragments of bone and draining into the bladder.

A parallel case was found a few weeks later. A bullet had entered above the symphysis, and at the forward hospital had been removed from the right buttock by incision. On operation we found an infected hematoma at the right of the bladder and in the space of Retzius. Bits of bone lying free or loosely attached to the pubic ramus were removed. Drainage was established, and convalescence progressed rapidly.

Penetrating buttock wounds are notoriously full of grave possibilities, one of which is a bladder or ureteral injury. However, I recall no such case discovered in the life of the patient, and in none of the several postmortem examinations showing severe pelvic infection was I convinced that this had originated in the urinary tract. Although I saw a number of simple fecal fistulas, I met with no fistula involving both urinary and intestinal tracts. A stricture of the prostatic urethra was found in a man with a fractured pelvis due to crushing, and a number of small wounds of the external genitalia, or healing wounds following orchidectomy performed elsewhere, were seen from time to time.

The bladder complications of gunshot wounds of the spine have interested urologists very much. The behavior of the bladder varies greatly in different instances, but there is usually a period of retention before incontinence sets in; and different devices have been employed to overcome the retention. We had about eighteen or twenty such patients, and tried, in different instances, infrequent catheterization, suprapubic drainage in some persistent cases, and the do-nothing plan so strongly advised by some English surgeons. The last I am convinced is not of universal application, but it is probably the ideal treatment when it can be borne, depending as it does entirely on the overflow drainage of the bladder. Any harm done to the kidneys by a continuously large amount of residual urine in the bladder probably represents a smaller risk than that of urinary infection from repeated catheterization. The rapidity with which infection following catheterization in spinal cases may travel is illustrated by one of our patients, who died twenty-four days after receiving a severe wound of the fifth lumbar and first sacral regions. There was gangrene of the bladder and ureteral mucosa and marked infection of both kidneys.

A number of cases of urinary calculus, perinephritic abscess, genital tuberculosis, torsion of the cord, and a group of less important "civil" conditions were met and treated by operation. The subject of hematuria as found in soldiers was of great interest, and many cases were investigated with the cystoscope. It was amazing that over 90 per cent. of them represented types of what is rather loosely termed "war nephritis." But that discussion will be taken up elsewhere.

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EARLY DIAGNOSIS OF ACUTE ILEUS

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While the diagnosis of ileus due to strangulated hernia is usually made almost at a glance, there are frequently well developed cases of ileus from bands and kinks, intussusception, volvulus and mesenteric thrombosis which are not easy to recognize in their early stages. The classic signs of abdominal pain, nausea and vomiting, tympany and stoppage of the bowels are frequently lacking, and the medical attendant must make an early decision whether or not laparotomy should be performed.

There frequently is no pathognomic sign to aid in the diagnosis, and this is especially true of that form of adynamic ileus due to mesenteric thrombosis. In this condition, abdominal distention is the only sign during the early stages. The patient did not complain of pain, because of the absence of the violent peristaltic assaults on the obstructing element, so strikingly demonstrated when the muscular waves are suddenly arrested at the site of a strangulated hernia or intussusception. The whole bowel included in the thrombosed arc is in a state of flaccid paralysis, and is incapable of peristalsis. Distention of the bowel results from the loss of tonus in the intestinal muscles and from the gases generated by the putrefaction of the intestinal contents consequent to the stasis. As time goes on, and the element of peritonitis is added, the condition becomes an abdominal crisis, and there is no hesitancy in advising immediate laparotomy. It is necessary, therefore, to reach an early decision as to operation before the pathologic changes become so developed that a diagnosis is rather forced on the physician than reached as the result of an early appreciation of the morbid sequence. Unlike adynamic ileus, the obstruction resulting from a mechanical obstruction to peristalsis and to the onward passage of the intestinal contents, in the vast majority of cases manifests itself by symptoms corresponding in intensity to the degree of obstruction. The rule is, that in those cases in which the stoppage is instantaneous and complete, the patient suffers violent abdominal pain followed by reflex nausea and vomiting. Abdominal distention follows in a few hours, and in many instances peristaltic waves may be observed, beginning on the left side of the abdomen and coursing toward the right, becoming arrested at the point of obstruction. This sign in itself is pathognomonic.

ILLUSTRATIVE CASES

The following cases illustrate the difficulties of diagnosis in the early stages of these two types of obstruction and the necessity of early operation:

Case 1.—*Mechanical ileus with gangrene of 30 inches of the bowel.*—Lieutenant H., admitted to the Medical Service of Major J. N. Hall, Camp Logan, Houston, Texas, had been operated on about one year previously for suppurative appendicitis, requiring drainage. The laparotomy wound healed by granulation, leaving a long, ragged scar. There was no postoperative hernia, and the patient had not complained of constipation or of abdominal pain subsequent to his operation. Dec. 21, 1918, he complained of a moderate degree of abdominal pain, but this was not associated with nausea or vomiting, or abdominal distention; however, attempts to move the bowels were unavailing. The patient was removed to the hospital, and an examination at that time detected very little in the way of physical findings, although there was a moderate amount of rigidity in the lower part of the abdomen. There was almost no tenderness, and the pulse and the temperature were normal. It was, therefore, decided on account of the patient's good condition to watch developments until morning. At that time there was marked rigidity and tenderness over the lower abdomen, and no evacuation of the bowels had taken place. Immediate laparotomy was therefore advised and the patient given a general anesthetic.

The old irregular scar was first excised and the peritoneal cavity opened near the middle line in order to avoid, so far as possible, adhesions of the viscera to the under surface of the old scar. When the peritoneum was opened, a large amount of bloody serum drained out. The remainder was mopped up with sponges, revealing a dark mass which at first resembled a large blood clot, but which on being delivered through the wound proved to be a coil of gangrenous ileum. There was a marked putrefactive odor emanating from the wound caused by necrosis of the ileum, resulting from the strangulation of an arc of intestine by a band of strong fibrous adhesions. This segment of bowel measured 30 inches in length and had reached an advanced stage of decomposition. There were areas of grayish pultaceous tissue which were extremely friable; the remainder of the gangrenous loop was black and the vessels thrombosed. A moderate degree of septic peritonitis had been set up by the contamination of the peritoneal surface by the pathogenic flora of the intestinal contents and by the saprophytic organisms of putrefaction. This was evidenced by the blistered appearance of the peritoneum. No cultures of the exudate were made.

Intestinal resection by the suture method was done. The gangrenous arc of intestine, together with a generous strip of sound tissue on each side of the necrotic area, was isolated between intestinal clamps and resected, including the accompanying mesentery. Before removal of the segment of mesentery, it was carefully inspected to make certain that the stumps of bowel to be reunited would be assured of an adequate blood supply.

The anastomosis was made with two rows of silk suture. The method of Connell was employed for the first row and a second supporting line of interrupted sutures for the second stitch. In order to make the union as secure as possible, a piece of omentum of suitable size was amputated, and was sutured around the anastomosis in such a manner as to encircle the bowel at the point of contact of the divided ends. The intestine was then dropped back into the abdomen and the repair of the abdominal wall begun. On account of the large amount of connective tissue incident to the old suppurating wound, it was necessary to dissect out a large amount of scar tissue and to undercut laterally for a considerable distance to obtain normal tissue for the introduction of sutures. Closure was done in layers, leaving room for the introduction of two large rubber drainage tubes, one of which reached down to the lowermost part of the pelvis while the other reached down to the anastomosis. A pint of physiologic sodium chlorid solution was given intravenously while the patient was still on the operating table.

The after-treatment consisted of maintaining the Fowler position, the administration of the continuous drip saline, and morphin to allay peristalsis and pain.

On the third day a low enema was given for the relief of gas pains, and as often as necessary thereafter There was no postoperative nausea and vomiting, and the patient took orange juice and water by mouth on the third day.

This patient developed a small fecal fistula, which healed slowly without any further operative procedures.

Comment.—The mechanical ileus that developed in this case was directly chargeable to the old adhesions that had developed at the site of the former infection.. No attempt had been made to roll out the cut edges of the peritoneum, which frequently cement themselves to the underlying viscera

and omentum, even in those cases in which no infection occurs. It is, therefore, the duty of the operator to safeguard his patient so far as possible from the danger of postoperative adhesions, by not permitting the cut edge of the peritoneum to be infolded. This can be easily accomplished by always bringing the needle out on the endothelial surface of the peritoneum.

CASE 2.—*Thrombosis of the mesenteric veins, with gangrene of 42 inches of bowel.*—Sergeant H., admitted to the medical service of Major J. N. Hall, Camp Logan, Houston, Texas, Dec. 16, 1918, had felt in his usual good health and had gone to town on a pass. He ate a large amount of peanuts in addition to a hearty meal, and the next morning complained of not feeling well and would eat no breakfast. A few hours later he was seized with acute abdominal pain, nausea and vomiting, and tenderness over the whole abdomen. Attempts to move the bowels by cathartics and enemas were unavailing, and tympany became marked. There was no elevation of the pulse or the temperature, and the physical examination of the chest was negative. The abdomen resembled that of a man suffering from retention of urine, as there was a tumor occupying the lower portion of the abdomen corresponding in size and shape to the overdistended bladder. The patient stated, however, that he had no difficulty in voiding urine; but, in order to confirm this, the bladder was catheterized and only a few drops of urine were recovered. It was thought possible that there might be an abscess of the abdominal wall with a resulting reflex ileus. Immediate operation was advised because, while it was impossible to make an accurate anatomic diagnosis on the basis of the underlying pathologic condition, it was impossible to escape the conviction that the man was suffering from ileus, either of the mechanical, dynamic or adynamic type. The tumor assumed the shape and size of the mass sometimes observed in the condition described under the term "ileus duplex," in which several coils of ileum are pasted together and lie with the ruptured appendix in the true pelvis.

This tumor, if appearing in a woman, would almost surely result in the diagnosis of uterine fibroid, before the bimanual examination was made.

Under general ether anesthesia a right rectus incision was made in order to give the most liberal exposure of the abdominal contents. The possibility of an abscess of the abdominal wall was kept in mind while going through the tissues, but no collection of pus was found. When the peritoneal cavity was opened, a considerable amount of bloody serum was found. There was an odor of putrefaction which was explained by the exposure of a large amount of gangrenous bowel. This was carefully lifted out until normal intestine was met, both proximally and distally. The gangrenous arc constituted 42 inches of the ileum and was consequent on a thrombosis of the mesenteric veins draining that segment. No other pathologic condition was noted to account for the mesenteric thrombosis.

It was considered doubtful whether operation was warranted because of the great amount of tissue involved, but on account of the patient's good general condition, it was felt that resection was justified.

The gangrenous arc was isolated with the intestinal clamps applied well into healthy tissue, and an end-to-end anastomosis was made by the suture method. Two large drainage tubes of rubber were inserted, one down to the site of the anastomosis, and the other down to the most dependent portion of the pelvis. One pint of physiologic sodium chlorid solution was given intravenously during the course of the operation, and the patient was returned to bed with a good pulse.

He was immedately placed in the Fowler position on the Gatch frame, and hypodermoclysis was begun with physiologic sodium chlorid solution by the drip method. The patient experienced no postoperative nausea nor vomiting, and there was but little abdominal distress. The bowels moved on the second day with the aid of an enema, and thereafter once or twice daily until convalescence was well established. There was a considerable amount of drainage of serum through the tubes, the first of which was removed on the fourth day, and the second on the eighth day. The rectal salines were discontinued on the fifth day, but the Fowler position was maintained for ten days. The highest point reached by the temperature was 100, and by the pulse, 120.

The abdominal wound healed by primary intention, except at the point at which the tubes were introduced; this healed by granulation, but there was no tendency to hernia. The patient returned to duty, Jan. 24, 1919.

Comment.—This case emphasizes the vast importance of making an early diagnosis of pathologic changes within the abdomen requiring immediate operation, and subjecting the patient to operation without delay, even though the precise anatomic and pathologic lesion cannot be recognized before entering the peritoneal cavity.

POLLEN EXTRACTS AND BACTERIAL VACCINES IN HAY-FEVER

SECOND REPORT

IRA FRANK, M.D.
AND
SOLOMON STROUSE, M.D.
CHICAGO

In March, 1916,[1] we published our first report on the treatment of hay-fever by injections of specific antigens. We analyzed the literature and our own clinical experience for results in the treatment of hay-fever patients with pollen extracts alone, and with bacterial vaccines alone, and we concluded that neither method had given completely satisfactory therapeutic results. We suggested the theory that hay-fever symptoms could be explained by the conception of the disease as a combined state of hypersensitiveness to various pollens and a condition of nasal infection, or, as called by Adami,[2] "subinfection." There can be no doubt that each hay-fever patient represents a state of hypersensitiveness to a definite pollen, as can easily be proved by ocular or dermal tests with pollen extracts; but there are at least theoretical considerations indicating the presence of a complicating infection. Furthermore, because of the inconclusive results of pollen therapy and because bacterial vaccine therapy showed as good or better results than pollen therapy, it was concluded that the logical treatment of the disease would be by a combination of the two methods.

Up to that time our results had shown that approximately 64 per cent. of the patients receiving bacterial vaccines had been relieved in greater or less degree of their symptoms, and that 70 per cent. of those receiving pollen extract alone were relieved. In neither series, however, did we feel that we had reached the best possible therapeutic result. We reported, likewise, on four patients who had received pollen extract prophylactically in increasing doses during the 1915 season, and who, despite the injections, suffered during the hot spell in September from very severe attacks. All four of these patients were immediately treated with autogenous vaccines in large doses. The results in these four cases were, indeed, surprising; for after the first injection there was an almost complete disappearance of symptoms. In all four cases vaccine therapy was continued until the end of the season with unquestionable seasonal cures. The patients went through the remainder of that summer without any

1. Strouse, S., and Frank, I.: Pollen Extracts and Vaccines in Hay-Fever, J. A. M. A. **66**: 712 (March 4) 1916.
2. Adami, J. G.: Brit. M. J. **1**: 177, 1914.

symptoms of hay-fever, although they had been sufferers for many years. From our experience we did not attempt to draw large conclusions, but merely suggested that our results warranted a continuation of efforts to prove or disprove the theory advanced and to apply the therapeutic principles to a larger number of cases.

In our report we called attention to the fact that bacterial vaccines had previously been used in the therapy of the disease. The reports up to the time of our first publication were incidental and fragmentary. After the publication of our article several reports were made by other investigators on the combined method of treatment, the most important of which indicated favorable results. Medalia[3] believed from his experience that the pollen extract could be dispensed with in favor of bacterial vaccines. Scheppegrell,[4] without mentioning work of previous investigators, concluded that the most desirable method of treatment was a prophylactic injection of pollen extract followed, at the height of the season, by bacterial vaccines.

Our own work was continued during the season of 1916, but we did not employ exactly the same method of injection as we had employed in the previous year. The sensitization tests that we had freely used from 1913 to 1915 had shown that all of the autumnal catarrhs met with in the Chicago district were caused by ragweed pollen. Therefore, we had grown for us in a neighboring hothouse a large amount of ragweed, which pollinated early and gave us a plentiful supply of ragweed pollen for early injection. The extract was made and the dilutions employed according to the method of Koessler.[5] During the season of 1916 sensitization tests were dispensed with because of our previous experience. Likewise, we did not control dosage by means of the quantitative skin reaction, because, as stated in our first article, it seemed proved that clinical results did not at all parallel the results of the dermal tests. Theoretically, one might expect such a state of affairs to exist exactly as occurs in typhoid fever when, as is well known, clinical immunity bears no quantitative relationship to the strength of agglutinins or bacteriolysins in the blood stream; Goodale[6] is of the same opinion. Using as a pollen unit a dosage equivalent to 0.0000001 gm. of pollen, we usually began treatment with an injection of 10 pollen units, increasing by various multiples, depending on the reaction of the patient. The accompanying tables give the details of the complete injections for a number of patients.

During the season of 1916 we attempted to investigate three points concerning which exact data were lacking: first, whether better results would accrue from combining in the prophylactic injections beginning in June or July both the pollen extract and the bacterial vaccine; second, the size of the dose of pollen extract; and, third, the relative value of autogenous vaccines as compared with stock vaccines. Concerning this last point it will be recalled that at the time of our first publication considerable attention was being paid to the question of nonspecific protein reactions, and the suggestion had been made to us that the results of our treatment in 1915 had not been due to the formation of specific antibodies, but had been due to a nonspecific protein reaction. If the results were due to a nonspecific reaction, then the theory underlying our treatment was incorrect. Therefore, in many cases, in 1916, we used a stock vaccine of *Staphylococcus albus* made from the nasal mucosa of one of the patients who, in the previous year, had been successfully treated.

TABLE 1.—PROTOCOL OF TREATMENT GIVEN MRS. F (CASE 1)

Date	No. Pollen Units	Dose
July 8	10	
July 12	20	plus .1 ccm. stock vaccine (equal to 50 million Staphylococcus albus)
July 15	50	plus .15 ccm. stock vaccine
July 19	150	plus .2 ccm. stock vaccine
July 22	350	plus .3 ccm. stock vaccine
July 26	500	plus .3 ccm. stock vaccine
July 29	700	plus .4 ccm. stock vaccine
Aug. 2	1000	plus .5 ccm. stock vaccine
Aug. 5	1500	plus .6 ccm. stock vaccine
Aug. 8	2000	plus .7 ccm. stock vaccine
Aug. 12	2000	plus .8 ccm. stock vaccine
Aug. 16	2500	plus .9 ccm. stock vaccine
Aug. 21	2500	plus 1.0 ccm. stock vaccine
Aug. 28	3000	plus 1.0 ccm. stock vaccine

There was considerable variation of opinion regarding dosage of pollen extract, and it seemed to us that the only possible solution of this problem lay in the therapeutic test. In some cases then our dosage ran as high as 3,000 pollen units. Furthermore, no data were available on the best method of injection, so we decided to try the combined prophylactic on a comparatively large percentage of our patients.

These three factors which entered into the treatment during the season of 1916 complicated considerably the interpretation of results as compared with previous years. A further complicating element was the excessive heat during the summer and the corresponding unusual severity of the hay-fever season. In 1916 patients who in previous years had been free from hay-fever symptoms in certain districts of Michigan and in the mountains of the East complained of symptoms in the supposedly hay-fever-free resorts.

TABLE 2.—PROTOCOL OF TREATMENT GIVEN MISS E. (CASE 2)

Date	No. Pollen Units	Dose
July 7	10	
July 12	20	
July 15	40	
July 18	80	
July 21	150	
July 25	300	
July 28	600	
Aug. 1	1000	
Aug. 4	1500	
Aug. 8		.1 ccm. stock vaccine
Aug. 11	2000	plus 2. ccm. stock vaccine
Aug. 15	2000	.3 ccm. stock vaccine
Aug. 21		.3 ccm. stock vaccine (hay-fever symptoms)
Aug. 28		.4 ccm. stock vaccine
Sept. 6		.5 ccm. stock vaccine

It was, therefore, difficult to interpret the results of injection therapy in the thirty patients treated. Of eleven patients treated by the combined injections from the early part of July through the hay-fever season, benefit of varying degree is noted in five, and in only one could the result be considered a seasonal cure. The treatment of these patients was practically identical and will be illustrated in Table 1, the protocol of a patient who received much benefit.

Although this patient showed some apparent good results from the treatment, in no others receiving the same method of treatment were results comparably

3. Medalia, Leon S.: Hay Fever: Its Treatment with Autogenous Vaccines and Pollen Extract, Boston M. & S. J. **175**: 201 (Aug. 10) 1916.

4. Scheppegrell, William: Notes on Treatment of Hay Fever, Interstate M. J. **24**: 488 (May) 1917; The Treatment of Hay Fever and Asthma by Pollen Extracts and Bacterial Vaccines, N. Y. Med. J. **107**: 1016 (June 1) 1918.

5. Koessler, K. K.: Illinois M. J. **26**: 12, 1914.

6. Goodale: Hay-Fever and Hay Asthma, Musser and Kelly, Practical Treatment **4**: 531.

good. The protocol might just as well have been from one of the patients who was not at all benefited. The impression gained from this series, when compared with other cases treated the same year, is not good. Ten more patients were treated by prophylactic injections of ragweed pollen, followed at the beginning of the hay-fever season by the combination of vaccines and pollen extracts, or in some cases by bacterial vaccines alone. A protocol of one such patient who was markedly benefited is given in Table 2. Another patient treated similarly, who was able for the first time in years to remain in town, is given in Table 3. Both of the last two patients had been hay-fever sufferers for years and had received treatment with pollen extract or bacterial vaccines in the two preceding years. The protocols of the patients who showed no results from treatment cannot be differentiated from the two just given.

TABLE 3.—PROTOCOL OF TREATMENT GIVEN MR. A. (CASE 3)

Date	No. Pollen Units	Dose
July 12	20	
July 15	50	
July 21	150	
July 25	300	
July '28	600	
Aug. 2	1000	
Aug. 5	1500	
Aug. 9	2500	plus .1 ccm. stock vaccine
Aug. 11	2500	plus .25 ccm. stock vaccine
Aug. 17	2500	plus .3 ccm. stock vaccine
Aug. 22		.35 ccm. stock vaccine (mild hayfever symptoms)
Aug. 23		.4 ccm. stock vaccine

TABLE 4.—PROTOCOL OF TREATMENT GIVEN MR. C. (CASE 4)

Date	No. Pollen Units	Dose
Aug. 15	50	
Aug. 17	150	plus .1 ccm. stock vaccine
Aug. 21	300	plus .2 ccm. stock vaccine
Aug. 23	No treatment (hay-fever seemed worse)	
Aug. 25	Better	.1 ccm. (100 million S. albus autogenous)
Aug. 29		.25 ccm. autogenous vaccine (miserable attack)
Sept. 1		.2 ccm. autogenous vaccine (absolutely no relief)

Three patients were treated by increasing doses of bacterial vaccines alone during the course of the attack, two of whom showed some relief and one a seasonal cure. In contrast to these three are six patients given combined pollen extract and bacterial vaccines during the attacks. Of these six, four showed absolutely no effect, none was cured, and two moderately relieved. Case 4 (Mr. C.), with no treatment in 1914 and 1915, with the onset about August 15, was treated according to the protocol given in Table 4.

TABLE 5.—PROTOCOL OF TREATMENT GIVEN DR. C. (CASE 5)

Date	No. Pollen Units	Dose
July 13	2	
July 17	3	
July 19	5	
July 23	10	
July 26	30	
July 30	70	
Aug. 2	100	
Aug. 6	200	
Aug. 9	500	
Aug. 13	700	
Aug. 16	1000	
Aug. 19		100 million Streptococcus albus, autogenous
Aug. 23		200 million Streptococcus albus, autogenous
Aug. 26		300 million Streptococcus albus, autogenous
Aug. 30		400 million Streptococcus albus, autogenous

Summarizing the results in 1916, we find there was some benefit in a little more than half of the patients treated. Nothing like the startling results of the previous year was obtained. Perhaps the most important lesson was the negative value of some of the procedures. From the work this year it seemed unwise, first, to use such large doses of pollen extract; second, to carry the pollen extract injections through the period of hay-fever attacks; third, to combine the pollen and the bacterial vaccines in prophylactic injections, and, fourth, to use stock vaccines.

We were unable to continue our work in 1917, owing to uncontrollable circumstances, and in 1918 war conditions prevented a resumption on the scale hoped for. However, the 1918 results are interesting and valuable enough to include in this report. We treated only sixteen patients, and they were all treated in practically the same manner. We used this year one of the commercial pollen extracts (ragweed), started injections in July and continued to the height of the season, when autogenous vaccines were made and intensively injected. The protocol of one case given in Table 5 is practically the story of all.

All but two of the patients treated in this manner remained in Chicago throughout the hay-fever season in considerable comfort, and all felt that the relief from suffering was remarkably good. The two patients who went away before bacterial vaccines were started suffered rather intensely from hay-fever in a supposedly hay-fever-free section of Michigan. The results this year compared favorably with those of the 1915 season.

CONCLUSIONS

1. Specific therapy should not be undertaken in the presence of pathologic conditions in the nose or accessory sinuses. It has not been our experience that removal of polyps or similar operations has cured hay-fever patients, but it has been our experience that such operations may be necessary if subsequent therapy is to be successful.

2. In a disease with the remarkable seasonal variations of hay-fever, it would be folly to attempt to draw definite or final conclusions from the work so far reported; but from the consideration of our own and reported results, we believe it is fair to say that the method of treating hay-fever patients by early prophylactic injections of pollen extract, combined with late and intensive injections of autogenous bacterial vaccines, offers the greatest therapeutic promise of any method so far advanced in the treatment of this disease. Pollen extracts alone and bacterial vaccines alone, while giving results, do not seem to relieve so many patients as does the combined therapy. Treatment with pollen extract should start early in the season (June or July) and should be discontinued at the height of symptoms, at which time bacterial vaccines should be substituted.

3. We have not found that injections one year have prevented attacks the succeeding year, but we do note that in patients receiving continued treatment from year to year there is a definite tendency for the hay-fever symptoms to become progressively less severe.

104 South Michigan Avenue.

State Responsibility for Public Health.—The state, like the federal government, has at least three responsibilities in the field of public health—the prevention of the introduction of disease from without, the control of the intercounty, or intermunicipal spread of disease, and the health of all the people within the state from the general welfare point of view. These responsibilities can be met only by some degree of state control over local health conditions. This control should be more than advisory and should be applicable at all times and places and when and where there is a menace to other localities.—B. S. Warren, M.D., *Public Health Reports.*

THE USE OF INTRAVENOUS INJECTIONS OF MERCURIC CHLORID

IN THE TREATMENT OF SUPPURATING AND INFECTIOUS DISEASES

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De Quervain[1] of Switzerland said recently that "it is better to save a sick man undiagnosed than to let him die correctly diagnosed." Modern medicine, however, has started in the direction of neglecting therapy for diagnosis. This is evidently the reason why scarcely any attention was aroused when Baccelli[2] in 1907 recommended the intravenous administration of mercuric chlorid in cases of gonorrheal rheumatism, although any one who has ever had any experience with this ailment knows how sorely we need an efficacious remedy against it.

THERAPEUTIC ACTION OF MERCURIC CHLORID

After experience had taught me that mercuric chlorid given intravenously undoubtedly has a marked beneficial influence on gonorrheal rheumatism, I began to use it in other stubborn complications of the neisserian infection. I succeeded in clearing up cases in patients who came to my office after they had traveled for years from physician to physician, some of them having been advised to submit to vesiculotomy and other atrocities.

While associated with Dr. Slavich, I used, on his suggestion, similar treatments in acute and in chronic suppurating surgical ailments. A number of cases of furunculosis, carbuncle, adenitides in consequence of local infection, and other toxemic conditions were thus treated. The results were invariably satisfactory. Conditions that resisted ordinary surgical and medical treatment seemed to disappear with rapidity, the temperature soon dropping to normal. The improvement in the patient's general feeling was always cheerfully admitted.

CASE REPORT

June 28, 1918, I was called to examine a woman of 40 who gave the history of having been infected by using a toilet at a picnic. At the first glance there could be no doubt as to the accuracy of the diagnosis. Besides, Dr. Rosenstirn, who, with Dr. Slavich, saw the patient the evening before, told me over the phone that it was a very severe case of erysipelas. The swelling and purple discoloration, starting from the neighborhood of the right labium majus, extended to the knee, and the suffering was intense. The temperature was 103.6.

Under proper and constant care, with the usual external applications and internal medication, the patient went from bad to worse. The erysipelas progressed to the ankle, and the temperature was almost constantly above 104, with the patient greatly prostrated. July 1, I gave her intravenously 4 c.c. of a 1:1,000 solution of mercuric chlorid. Within six hours the nurse reported that there had been a drop in the temperature to 100.4, and that the patient felt considerably better. Another intravenous injection was given July 2. Though the process was not quite terminated, as the rash continued to make its circuit, yet the condition was milder in every respect. No more mercurial injections were given, as the patient had a defective tooth and her gums became sore, and I feared salivation.

USE OF MERCURIC CHLORID IN ERYSIPELAS

Since treating the case just described, I have used mercuric chlorid injections in three other cases of erysipelas, in two of which the results were remarkable. In one case, however, rather indifferent results were obtained, but even in this case the temperature and pain somewhat receded.

USE OF MERCURIC CHLORID IN INFLUENZA

During the recent so-called influenza epidemic, when dire necessity pressed every one into service, and when being a urologist could not be offered as an acceptable excuse for refusing to help, I saw a large number of influenza patients, whose cases I have reported. People were dying so rapidly that I became really frightened. Not knowing what to do, I resorted to the intravenous injections of mercuric chlorid. Some of my medical friends say that I am simply extremely lucky, but the fact is that not a single one of my influenza patients died, though more than a dozen had pneumonia, hemorrhages, toxic delirium and other disagreeable complications.

TECHNIC OF INJECTION

The technic for the intravenous injection of mercuric chlorid is simple, not differing from that of the ordinary intravenous injection. It is needless to say that strict asepsis in every respect is always observed. A 10 c.c. all-glass Luer syringe is employed, to which any good intravenous needle can be attached. A sterile 1:1,000 solution of mercuric chlorid is prepared, the dose varying according to conditions, being usually, however, between 3 and 5 c.c. The number of injections required also varies. In acute conditions one or two injections may suffice, while chronic cases usually require five or more.

IDIOSYNCRASY TO MERCURY

I saw in only two instances disagreeable consequences due to acute mercurial poisoning. After I had read F. Grondoni's recommendations for similar pathologic conditions, I gave a patient the enormous dose of 2 cg. mercuric chlorid intravenously. This patient recovered, both from his severe anthrax and from the mercurial poisoning.

Another patient, who in all probability had an idiosyncrasy against mercury, and was in a weakened condition from having suffered for weeks from a severe pyelitis and cystitis, showed very marked symptoms of acute poisoning after an initial dose of only 3 mg. of mercuric chlorid. Such a lesson as this keeps one from that familiarity which breeds contempt, and teaches respect for that excellent remedy, mercury.

USE OF MERCURIC CHLORID ABROAD

Recently, new reports on intravenous injections of mercuric chlorid are coming from Italy and Spain. Ferrari[3] advises daily intravenous injections of 0.01 gm. of mercuric chlorid dissolved in 1 c.c. of physiologic sodium chlorid solution, to be given in grave cases of influenza, and reports good results, patients having recovered under this treatment who previously had seemed doomed. Pérez[4] of Madrid reports most pronounced curative effects of intravenous mercurial injections in cases of puerperal septicemia; the ter-

* Read at the Forty-Eighth Annual Session of the Medical Society of the State of California, April 16, 1919.

1. Cor.-Bl. f. schweiz. Aerzte, April 20, 1918.
2. La via delle vene aperta ai medicamenti eroici, Rome, 1907.
3. Ferrari: Riforma méd., Nov. 9, 1918.
4. Pérez: Medicina, Madrid, Aug. 3, 1918.

minal dose which he recommends goes as high as 10 c.c. of a 1:1,000 solution of the mercuric chlorid.

There can be no doubt that a further and more extensive trial with intravenous injections of mercuric chlorid is warranted.

MENTAL DEFICIENCY OF PROSTITUTES

A STUDY OF DELINQUENT WOMEN AT AN ARMY PORT OF EMBARKATION

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WASHINGTON, D. C.

The war with its mobilizing of great numbers of men in certain communities has brought to the fore, more than has occurred at any previous time, the problem of the prostitute and her control. The many agencies at work to prevent the spread of venereal disease have done much in the education of the soldier and of civilian. Certain of these agencies have succeeded in using the power of arrest to good advantage in controlling the disease, and it is now quite generally recognized by the country at large that the prostitute is a menace to public health.

MENTAL ASPECTS OF THE PROBLEM OF THE PROSTITUTE

The health agencies have not been unmindful of the mental aspects of the problem of the prostitute. They have asked the question, What manner of woman is this? and have spared no effort in supplying an answer. Both psychologist and psychiatrist have been called on to assist in the solution. The consequence of this cooperation should be that a year from now may witness the accumulation of much reliable data on this question—so authoritative and so definite that legislative bodies will see their way clear to take what now may be considered most radical action in dealing with the scarlet woman.

In the belief that one of the most significant elements in prostitution is mental deficiency, the writer presents the data on the mental status of a group of delinquent women examined at Newport News, Va., under military direction.

Newport News as a port of embarkation, and now as a port of debarkation for the troops of the American Army, naturally attracted a number of women of ill fame. It furthermore became the abode of many women whose soldier husbands were or still are with the American Army overseas. Through weakness or force of circumstance many of these fell into evil ways. The homes of these women are scattered all over the eastern and southern states, and not a few from beyond the Mississippi River. Perhaps at no place, therefore, unless it be at Hoboken, N. J., the other large port of embarkation and debarkation, has there been better opportunity to study a group of sex offenders representing the country at large. Newport News as a city, also, does not offer the complexity of large city life in the study of the problem as would the New York City environs of the Hoboken port. It is felt that the data presented here are important in that they present a national rather than a local situation, studied under more or less favorable conditions.

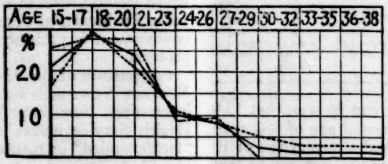

Fig. 1.—Distribution of 69 cases according to their actual age. In the three charts, the tracings refer as follows: dotted line, white women; dot-dash line, negro women; black line, both races.

CHARACTER OF THE MENTAL EXAMINATION GIVEN

The mental examination of the women arrested for prostitution and similar offenses at the above port was begun early in July, 1918, by Major Earl D. Bond, M.C., port of embarkation psychiatrist, and was continued by me on my arrival to assume psychologic duties in November. A physical examination of the women to determine the presence of venereal disease, and a psychologic examination to determine the degree of mentality, were given in every case as an aid to the court and probation officer in the final disposition of the case.

Although the women had been arrested for prostitution and other sexual offenses, very few of them were *professional* prostitutes. Of the white women, 62 per cent. were married, many of them to soldiers. By far the greater proportion of them were arrested in hotels and cheap lodging houses in the center of the city. Most of the colored women were casual inmates of the low-grade entertainment houses in the negro section of the city. Approximately 74 per cent. of the white women and 79 per cent. of the colored women were found to be infected with a communicable venereal disease.

My records show that during the six months covered by this article, 126 women were given the Binet-Simon (Goddard revision) mental examination. This examination was used rather than the newer Stanford revision by Dr. Terman's method, for purposes of maintaining uniformity with a previous investigator who had used this form of examination here.

THE MENTAL AND THE ACTUAL AGE OF THE PROSTITUTES

Before tabulating the mental ages of these women as shown on the scale, it is interesting to note their actual ages. Table 1 and Figure 1 show the distribution of ages of sixty-nine of the 126 women. Unfortunately the ages of all those examined were not obtained. It will be observed that 50 per cent. of the women just mentioned were under 21 years of age, and

TABLE 1.—DISTRIBUTION OF SIXTY-NINE WOMEN ACCORDING TO THEIR ACTUAL AGE

Age	Number in Each Age Group	Per Cent. of Women at Each Age Group	No. White	Per Cent. White	No. Colored	Per Cent. Colored
15-16-17	14	20.2	6	16.2	8	25.0
18-19-20	20	29.0	11	29.9	9	28.7
21-22-23	17	24.6	8	21.5	9	28.1
24-25-26	7	10.2	4	10.8	3	9.45
27-28-29	6	8.7	3	8.1	3	9.45
30-31-32	2	2.9	2	5.4	0	.....
33-34-35	1	1.4	1	2.7	0	.....
36-37-38	1	1.4	1	2.7	0	.....
Over 38	1	1.4	1	2.7	0	.....
Totals	69	100.0	37	100.0	32	100.0

over half of these were between 18 and 20. While these figures must not be accepted as absolutely correct, because of the common tendency among such women to falsify their ages, it is nevertheless believed that the errors tend to correct themselves, and that these are the ages at which most women of ill fame "ply their trade." It is in these years that the economic pinch and the temptation for wrong doing seem to be strongest. Society must place greater safeguards about the girls of these ages, and educative measures should be enforced in the training of the girl following adolescence.

Table 2 and Chart 2 show the distribution of the 126 cases according to the mental age on the Binet-Simon

TABLE 2.—DISTRIBUTION OF 126 WOMEN ACCORDING TO THEIR MENTAL AGE

Mental Age	Number Cases at Each Age	Per Cent. of Women at Each Age	Number White	Per Cent. White	Number Colored	Per Cent. Colored
3	0	....	0	....	0	....
4	0	....	0	....	0	....
5	0	....	0	....	0	....
6	3	2.4	0	....	3	6.4
7	4	3.2	0	....	4	8.4
8	6	4.8	3	3.8	3	6.4
9	7	5.5	5	6.2	2	4.2
10	47	37.3	27	34.3	20	42.8
11	15	11.9	8	10.1	7	14.9
12	7	5.5	3	3.8	4	8.4
13	7	5.5	6	7.6	1	2.1
14	4	3.2	4	5.1	0	....
15	17	13.5	14	17.7	3	6.4
Adult	9	7.2	9	11.4	0	....
Totals	126	100.0	79 or 62.8%	100.0	47 or 37.2%	100.0

(Goddard) scale. From this it can be seen that 15.9 per cent. of the women had a mental age of less than 10 years, and that 53 per cent. had a mental age of 10 or under. In other words, only 47 per cent. can be said to have had average mental ability or above. Even if we grant that the average intelligence of persons of the negro race is two years below that of persons of the white race, the generally accepted figure, it is evident that women of deficient mentality of both races form about one half of the women arrested here for sexual offenses. If those of normal intelligence who are psychoneurotic, addicted to drugs, or otherwise abnormal are added to this group, the ratio of defectives is materially increased.

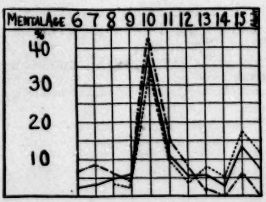

Fig. 2.—Distribution of 126 cases according to mental age.

Our percentage of 53 at the mental age of 10 or under agrees closely with the 51 per cent. "feeble-minded" reported by the Massachusetts Commission for the Investigation of the White Slave Traffic in its examination of prostitutes. Yet so many of the women examined in Newport News presented border-line cases that it is safe to say that hardly more than 10 per cent. of those examined here could under present laws be remanded to institutional care because of feeblemindedness. Thirty-eight per cent. of our cases fall in year 10 of the scale. This situation constitutes a great problem in the disposition of these cases. These women are mentally inferior, almost all of them being high-grade morons, yet they are almost entirely self-supporting members of society or capable of being such, aside from any commercial prostitution that they may carry on, and the suggestion of their confinement to institutions for the feebleminded would raise many serious objections. Their appearance is generally so good and their bearing so self-confident that the layman, and even the judge before whom they appear,

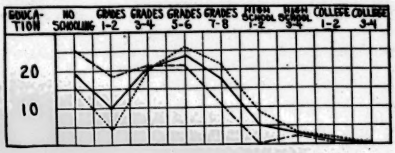

Fig. 3.—Distribution of 113 cases according to grade reached in school.

would hardly suspect the deficiency which is probably largely responsible for their delinquency. Even should the average judge be told of their deficiency, it is probable that he would greatly discount it. Colonization of mentally defective prostitutes under conditions which would permit them to continue supporting themselves by industrial occupation under a fairly normal environment is probably the eventual solution of the problem.

Comparison of the 53 per cent. mental deficiency at Newport News with similar data from other places is interesting. Sen.-Surg. J. O. Cobb[1] of the U. S. Public Health Service quotes the following percentages of "feebleminded" or mentally deficient:

	Per Cent.
Massachusetts commission for the investigation of the white slave traffic	51
Chicago Morals Court	62
Chicago Morals Court (126 definite prostitutes)	85.8
Illinois Training Schools for Girls (sexually immoral girls)	97
Massachusetts Reformatory for Women	49
Bedford State Reformatory	29.8
New York Probation and Protective Association (500 delinquents)	37
New York Probation and Protective Association (111 prostitutes)	35
Virginia Board of Charities and Correction (definitely determined commercial prostitutes in segregated district)	71.6

It is interesting to note that our figure approaches very closely the average of the above cases. It is to be remembered that the higher percentages quoted above are primarily from institutions which tabulated definitely established cases of delinquency and prostitution, often of the hardened, strictly commercial type, thus representing a specially selected group, whereas our cases are not largely commercialized vice, but rather sexual delinquents and venereals who are not old offenders.

Recent investigation in the state of Michigan by Katherine Ostrander[2] also emphasizes the menace of the feebleminded prostitute and quotes some interesting figures. Sixty women from 385 acknowledged or unacknowledged prostitutes, admitted to hospitals for venereal treatment, were found to be mentally retarded,

1. Cobb, J. O.: New York M. J., Nov. 2, 1918.
2. Social Hygiene Monthly, October, 1918.

but not to a degree making necessary institutional care on that account. In psychopathic clinics established in Detroit and a few other cities, out of 247 women examined, forty-five (18 per cent.) were pronounced totally feebleminded and unable to adapt themselves to society; those feebleminded and psychopathic not to a degree demanding institutional care amounted to 35 per cent. of the whole, totaling 53 per cent. mentally defective, which is closely comparable to our data at Newport News.

These figures add evidence to the already well-established belief that virtually half of the country's prostitutes are mentally deficient or feebleminded. It is highly important, as data of this sort accumulates, for the country at large to realize that legislation must be enacted in the several states which shall hold in restraint the prostitution of the large group of high-grade morons who to the uninitiated appear to be perfectly normal and often unusually attractive physically.

The apparently great increase of cases of those at the mental age of 15, as shown by Table 2 and Chart 2, has no significance, since the old Binet-Simon (Goddard revision) scale stops at the year 15; a number of cases of this grade might have rated adult, which on a newer scale like the Stanford-Binet, used in the Army, might mean a normal distribution over the years from 16 to 18.

Eighteen women showed evidence of mental unbalance. Of these, nine measured mentally 15 years or over on the scale. Eleven were emotionally unstable, three epileptic, one a drug addict, and two probably had dementia praecox. The examinations were made on the day of the arrest or the first day following, so there were few opportunities to uncover such deviations from the normal. By all chances the numbers given above are greatly understated.

Chart 3 and Table 3 give the distribution of 113 cases according to the extent of schooling. It is significant that almost 20 per cent. of these women (25 per cent. colored and 15 per cent. white) were without schooling and were illiterate. This figure is in excess of Virginia's percentage of illiteracy as quoted in the U. S. Census of 1910, which showed that fifteen in every hundred persons in this state were illiterate.

TABLE 3.—DISTRIBUTION OF 113 WOMEN ACCORDING TO GRADE REACHED IN SCHOOL

Grade Reached in School	Number Reaching Grade	Per Cent. Reaching Grade	Number White	Per Cent. White	Number Colored	Per Cent. Colored
No schooling..	22	19.5	11	15.7	11	25.5
Grades 1-2....	11	9.7	3	4.3	8	18.6
Grades 3-4....	23	20.4	14	20.0	9	21.0
Grades 5-6....	27	23.9	18	25.7	9	21.0
Grades 7-8....	20	17.7	15	21.4	5	11.6
Grades in high school, 1-2..	6	5.3	6	8.6	0	....
3-4..	3	2.7	2	2.9	1	2.3
Years in college						
1-2.....	1	0.8	1	1.4	0	....
3-4.....	0	....	0	....	0	....
Totals....	113	100.0	70	100.0	43	100.0

It will be noted that 30 per cent. of the group did not go to school beyond the fourth grade. Adding to this the illiterates who did not go to school or who had less than one year's schooling, we find the number becomes 50 per cent. who did not reach the fifth grade. Many factors, no doubt, enter into the cause of so large a percentage leaving school so early or never having attended school, such as economic necessity, poor schools and low intelligence. The ignorance of these prostitutes is appalling.

Such are the facts. Public sentiment should create the solution of the problem. All that the investigator can do is to determine the facts of the case and present them to the public; the public acting on this knowledge should create the sentiment among its legislators and judiciary that will bring about the purging of society of the social disease, just as quarantine is enforced in any contagious disease.

SUMMARY

Summing up, we find these to be the outstanding facts in the mental aspects of prostitution as found in Newport News:

1. Fifty-three per cent. of the women arrested for prostitution and kindred offenses and held in the detention home for examination had a mental age of 10 or under.

2. In addition, 15 per cent. of those who were not mentally deficient showed mental disorder.

3. Ten per cent. were so deficient as to warrant, under existing laws, segregation in an institution for feebleminded.

4. Fifty per cent. of these women did not reach the fifth grade in school.

5. If we are seeking for a "type," we might say that the composite of the delinquent woman as found in Newport News would seem to be a woman of 19, slightly mentally deficient, with schooling to the fourth grade.

BACK PAIN IN THE MILITARY SERVICE*

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Cases of pain in the back as seen in the military service may, for purposes of convenience, be grouped under the following headings:

I. Referred pain:
- A. Aneurysm and mediastinal growths.
- B. Gallbladder disease, gastric ulcer, etc.
- C. Kidney infections, renal and ureteral calculi and other genitourinary affections.
- D. Static back.
- E. Prominent abdomen due to deficient musculature, excessive fat, enteroptosis, etc.

II. Functional pain.
- A. Hysteria, malingering, the neuroses and allied conditions.

III. Essential back pain (acute and chronic):
- A. Traumatisms and acute infections.
  1. Sprains, strains, fractures and dislocations.
  2. Perinephritic abscess.
- B. Sacroiliac conditions.
  1. Infections.
  2. Misplacement.
- C. Sacralization of fifth lumbar vertebra.
- D. Infectious conditions.
  1. Rheumatoid, closely allied to the arthritides in which focal infections may be the cause.
  2. Typhoid.
  3. Tuberculosis.
  4. Syphilis.
  5. Gonorrhea.
  6. Spondylitis deformans, osteo-arthritis, etc.

* From the Surgical Service, U. S. Army General Hospital No. 1.

E. Congenital malformations.
F. Curvatures.
1. End-results of infections.
2. Rickets.
3. Postural curves, deficient musculature, etc.
C. New growths.
1. Carcinoma.
2. Sarcoma.
3. Osteoma, etc.

Although such a classification may be incomplete, it nevertheless serves as a guide and working basis in the majority of cases and it seems appropriate to discuss

Fig. 1.—Method of strapping patients.

briefly these various groups in order to point out the more essential features with reference to their recognition, proper management and military disposition.

REFERRED PAIN

Back pain caused by aneurysm and mediastinal growths, together with the referred pain of gallbladder disease, gastric ulcer and affections of the kidney, has been exceedingly rare in our experience and needs but brief mention. In the series seen at this hospital only one case could properly be classified in this group. The diagnosis was glomerular nephritis and the principal symptom was a dull pain in the lumbar region. After a most painstaking study of this patient no other

Fig. 2.—Gunshot wound of third and fourth lumbar vertebrae.

cause of back pain was revealed and it was finally classified as renal in origin.

The condition commonly described as "static back" has been found to be relatively common. In our experience it was frequently observed in the younger troops from the southern states. Such soldiers are prone to be underdeveloped with poor flabby musculature. They are, as a class, tall, thin and typically enteroptotic. The spine itself shows few signs of any pathologic condition other than a moderate amount of lordosis. Many of these men are also the subjects of second or third degree flatfoot.

TREATMENT

In treating these cases our main purpose was directed toward general physical betterment. In addi-

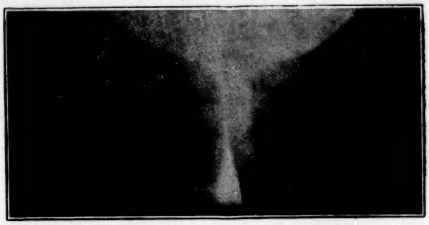

Fig. 3.—Sacro-iliac slip as evidenced by alteration and separation of the symphysis pubis.

tion to the usual hygienic and tonic treatment, plus the correction of any existing foot trouble, we found that carefully graduated remedial exercises were most beneficial in this class of patients. If the old anatomic teaching is accepted that the cervical fascia is connected with the pericardium and the latter with the diaphragm and that the raising of the diaphragm causes the abdominal wall to retract inward, then we may form a rational basis for and a proper understanding of remedial exercises and it is possible to appreciate the importance of chin up, chest out and belly in. We have placed our patients in this class in the general remedial detachment in which graduated exercises are undertaken under proper supervision. As a group they have shown marked improvement within a few weeks after exercises were begun and many of them were returned to full duty free from their former complaints. In a few cases a simple body support has been helpful in relieving the back pain.

FUNCTIONAL PAIN

Pain in the back is a frequent occurrence in diseases of the prostate, bladder, seminal vesicles and in some cases of varicocele. A complete venereal history together with a thorough genito-urinary and rectal examination, has become a routine practice in all cases of back pain seen at this hospital.

Malingerers frequently complain of pain in the back. We have seen several who claimed to have dull aching pain in the lower lumbar region. They simulate many of the common organic conditions and require the most careful observation and scrutiny before the real nature of the trouble becomes evident. Sacro-iliac disease is most often simulated.

Closely allied to this group of malingerers but distinct from it are the cases of hysteria and the various neuroses. Such cases, however, almost invariably show the typical stigmata that accompany such conditions and are relatively easy to diagnose.

We have seen all degrees of curvature associated with a simple hysteria or neurosis. A striking case was that of a soldier flexed almost to a right angle at the hips and who could walk only with the aid of crutches. This man promptly cleared up after the administration of a general anesthetic and the applica-

tion of a plaster casing from the nipple line to the ankles. Another patient had a supposed shortening of 2 inches in his left leg. After careful examination this was found to be due to a tilting of the pelvis, hysterical in origin. Many of these patients can be promptly relieved of their troubles. Most often, however, they belong to the group of psychoneurotics, with hysterical manifestations, and are fit only for domestic service, for the reason that under stress of active warfare and its accompanying hardships, they break down with other nervous manifestations and become a burden to the government.

ESSENTIAL BACK PAIN

The various cases of traumatism are too numerous for a detailed description. They vary from simple muscular strain to marked cord lesions associated with paralysis. We have already begun to receive and care for the gunshot wounds of the spine which will soon be so common in the military hospitals of this country.

It has been surprising also to notice the frequency with which slight rotations and dislocations of the vertebrae have been revealed by careful roentgenographic

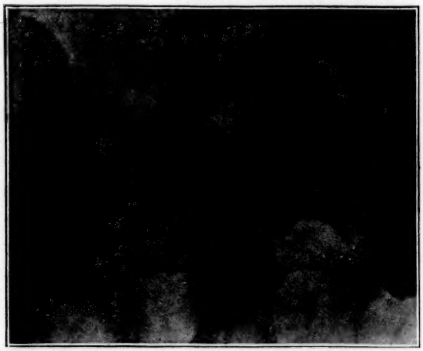

Fig. 4.—Sacralization of the fifth lumbar vertebra on the right side.

examination—defects which apparently account for the disability of which the soldier complains. Most of these belong in the group of spondylolisthesis cases described by Killian and Neugebauer. The exact etiology is often obscure but in most cases it may be traced to direct traumatism.

Very little can be done for such patients from a curative standpoint. They can, however, be relieved and markedly improved by some form of simple body brace and in the army most of them may be rendered suitable for domestic duty.

SACRO-ILIAC CONDITIONS

The question of sacro-iliac disease has been considered in the literature so fully that it hardly seems necessary to rehearse it again. Whether the sacrum slips forward, backward, upward or downward in the so-called dislocation, we will leave to the determination of those who are especially interested. There is not the slightest question that there is a pathologic condition of this joint and that the cases may be divided into infectious and mechanical groups. We have had two cases in which the infectious type seemed clearly established. One was an ordinary acute arthritis; the other was tuberculous in origin. Sacro-iliac dislocations or slips, as they are often termed, are relatively common. Soldiers with this affection give a history of recurrent attacks of pain in the back, coming on after lifting,

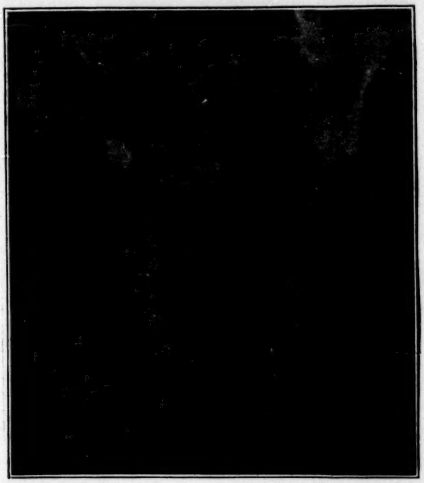

Fig. 5.—Lumbarization of the sacrum. A complete roentgenogram of the spine disclosed an extra lumbar vertebra with a congenitally deformed sacrum.

usually while in a stooping posture. The pain is at first sharp and knifelike, but later develops into a dull ache. It is situated over the sacral region and localized on one side. It often radiates down the leg and in some cases is easily confused with the pain of sci-

Fig. 6.—Destruction of the transverse process of the fourth lumbar vertebra due to tuberculosis—catheter in sinus tract.

atica or gluteal bursitis. Clinically these patients show spasm of the lumbar muscles and there is often a tilting of the pelvis toward the affected side. They complain of pain over the sacrum when bending forward and when the thigh is sharply flexed on the abdomen.

Many of them complain of increased pain when asked to stand on the leg of the affected side alone. When in a sitting or reclining posture they favor that leg and

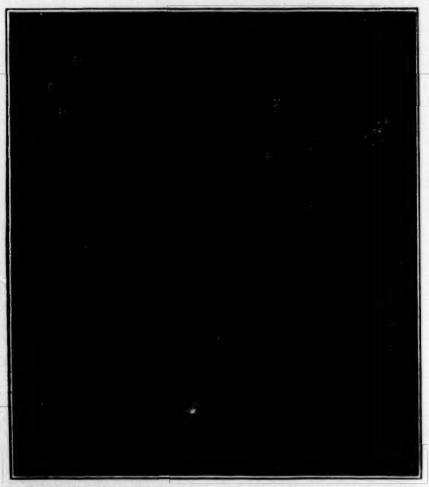

Fig. 7.—Old tuberculosis with destructive process of the bodies of the fourth and fifth lumbar vertebrae.

use it as little as possible in rising. Heavy percussion over the lower spine and sacrum elicits pain over the affected area. Pain on compression of the pelvis has been very rare in our experience. There is often tenderness over the joint on rectal examination and one of the striking signs has been tenderness over the symphysis. It has been present in about 60 per cent. of the cases. This can be readily explained in view of

TYPE OF CASES ASSOCIATED WITH BACK PAIN IN ARMY GENERAL HOSPITAL NO. 1

	Number of Cases
Kidney pain	1
Static back	8
Prominent abdomen	1
Hysteria	4
Neurosis	6
Malingering	3
Traumatisms, sprains, strains, fractures and dislocations	28
Sacro-iliac conditions	32
Sacralization of the fifth lumbar vertebra	2
Infectious conditions:	
Rheumatoid	8
Typhoid	1
Tuberculosis	9
Syphilis	2
Gonorrhea	2
Spondylitis deformans	3
Osteo-arthritis	2
Myositis (lumbar)	15
Congenital malformations	2
Curvatures (excluding above):	
Rickets	2
Postural curves	8
Total	139

the roentgen-ray findings. It has been definitely shown that the chief roentgenologic finding in this type of case is a misalignment of the symphysis due to the shifting of the pelvic bones as a result of the displacement in the sacro-iliac joint.

The space between the pubic bones is wider than normal and their relative position is altered. The old method of looking directly at the joint and of observing the angle between the spinal column and the ilium we have found to be of no value. So reliable do we believe the altered relationship at the symphysis to be that every case in our series has been corroborated by the roentgen ray before being recorded as sacro-iliac disease.

TREATMENT OF SACRO-ILIAC DISEASE

With reference to treatment we have found it mainly palliative. In the beginning rest in bed with some kind of fixation, such as adhesive strapping, is indicated. We have tried all the manipulations described for reducing these displacements but have not met with success in a single instance. In the later stages baking and massage seem to be helpful. In strapping these patients we have found the following method to be the most serviceable. Two wide pieces of adhesive tape (4 inch) are overlapped as shown in Figure 1. These are reinforced by three throat sticks and a third piece of adhesive tape is placed over the sticks. The last piece is designed to support the throat sticks and also to prevent the adhesive tape from sticking to the pubic hairs. This part of the belt is now placed on the patient so that the middle throat stick is directly over the symphysis. The ends are then firmly fixed to the pelvic bones. Straps are now run across the back so as to overlap the ends of the original pieces. These straps are put on with a great deal of tension and are

Fig. 8.—Spondylolisthesis.

designed to give tight support. Adhesive strapping has been used early in all our cases; later sacro-iliac belts have been applied. The belt most in use here is one composed of brown canvas made very simply and held

in place by three buckles and two rubber perineal bands. As a class, patients with sacro-iliac trouble make poor soldiers. The recurrence of the disability

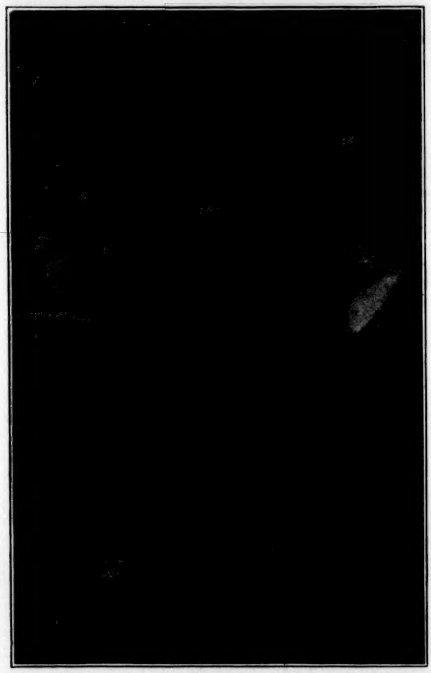

Fig. 9.—Hypertrophic arthritis with evidence of growth along the left lateral aspect of the fourth and fifth lumbar vertebrae associated with rotation.

is very common and makes their service uncertain. This is especially true if they are required to carry heavy packs or do much lifting. A few of our patients have been sent to domestic duty, and others have been given full duty in special branches of the service.

SACRALIZATION OF FIFTH LUMBAR VERTEBRA

A condition closely associated with sacro-iliac dislocation is sacralization of the fifth lumbar vertebra. In these cases the roentgen ray shows an abnormally large transverse process which is irregular in shape and often impinges on the sacrum or ilium. The symptoms and signs are identical with those of sacro-iliac dislocations and it is that alone that makes the differential diagnosis possible. In many cases the two conditions are associated. Several cases have been reported in which this condition was relieved by an operative procedure. The two cases in our series were discharged.

INFECTIOUS CONDITIONS

Infectious diseases of the spine and its coverings include a large variety of cases and account for many instances of pain in the back. Myositis which is commonly called lumbago, is so familiar that it needs no discussion or elaboration. In the cases of infectious diseases of the spine seen at this hospital there were two soldiers with hypertrophic inflammatory growths or exudates along the bodies of the vertebrae: one of these gave a history of recurrent attacks of rheumatism. In this case the chief symptoms were those of nerve root compression. Both men were discharged as unfit for military service.

Besides these types of infections we have had one gonorrheal spine with ankylosis in the lumbar region, also one typhoid spine with destruction of the intervertebral disks. The soldier in the latter case was given a supporting jacket with good results. Both men were made fit for limited service only.

Two cases of syphilis of the spine were also seen. These showed rather marked destruction of the vertebrae. Both these soldiers were discharged after being given intensive syphilitic treatment and fitted with appropriate braces.

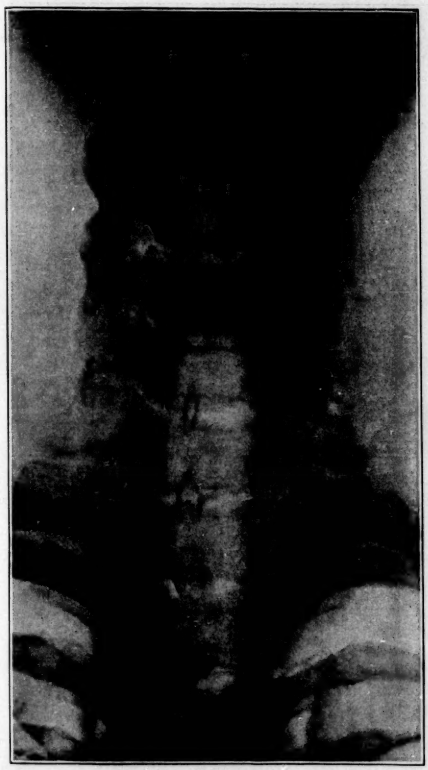

Fig. 10.—Osteo-arthritis involving dorsal and cervical vertebrae.

Spondylitis deformans is also grouped as an infectious condition and is closely allied to osteo-arthritis, of which we have had two cases. Three cases of spondylitis deformans were seen in our series. One was

straightened under moderate head and foot extension. This patient was later given a jacket and sent to domestic service. The other cases were so disabling as to justify discharge.

Tuberculosis has been fairly common among spinal diseases in the army. Many of these are old healed cases, but there have been a considerable number of acute ones. The treatment in the acute cases is such as is now virtually standardized and consists in hygiene, heliotherapy, fixation, etc. We have seen no case of Pott's disease suitable for the bone graft operation of Albee.

CONGENITAL MALFORMATIONS

Congenital malformations of the spine we have found to be rather rare. Two such cases seen here are worth mentioning. One proved to be due to an extra pair of ribs which had their origin from the first lumbar vertebra and occurred in a patient who complained

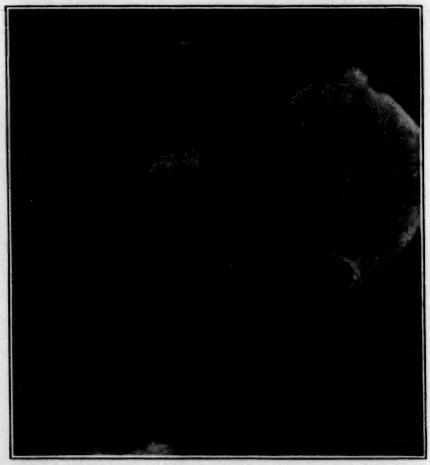

Fig. 11.—Hypertrophic arthritis with evidence of growth along the right lateral aspect of the fourth and fifth lumbar vertebrae and a shifting of the fourth lumbar vertebra to the left.

of pain directly over this area. Another was a case of lumbarization of the sacrum. This soldier had an extra lumbar vertebra and a small, malformed sacrum. His chief complaint was pain over the sacral region, which was readily accounted for by the roentgen ray findings.

SPINAL CURVATURES

All varieties of spinal curvatures have been seen. Those which were functional were readily improved by remedial work combined in a few cases with a light support. The effect of remedial exercise was especially gratifying in the cases of empyema associated with postoperative curvature, early sustained breathing combined with spinal calisthenics proving especially beneficial. The structural curves were found most frequently in cases of old tuberculosis. Two cases which were rachitic in origin were in the group of spinal curvatures. In the entire group of patients seen only one case of suspected tumor occurred. This at first was considered to be sarcoma but later was proved tuberculous.

In summing up the cases of back pain we wish to tabulate the actual grouping of 139 cases studied in the orthopedic division of the department of surgery at this hospital during the last six months. We believe the classification will represent the ordinary type of cases associated with back pain, as seen in army general hospitals.

In studying these cases we have been impressed by the infrequency of malingerers and by the comparatively small number of cases in which some pathologic condition of the spine or its coverings could not be actually demonstrated. We desire to emphasize the thoroughness with which cases of back pain should be studied, and to call attention to the necessity of group cooperation in order to arrive at proper conclusions. In this hospital the so-called orthopedic work is so intimately a part of the general surgical service that it has been possible to study and manage this field of our work with mutual interest and benefit to all concerned.

In presenting the roentgenograms we are particularly indebted to Major L. G. Cole and Capt. H. B. Podlasky for their enthusiastic cooperation and valuable aid in enabling us to arrive at certain definite conclusions. Roentgenologic interpretation alone was in many cases responsible for diagnoses that would otherwise have remained undetermined.

STUDIES IN INFLUENZA AND PNEUMONIA

II. THE EXPERIMENTAL PRODUCTION OF SYMPTOMS AND LESIONS SIMULATING THOSE OF INFLUENZA WITH STREPTOCOCCI ISOLATED DURING THE PRESENT PANDEMIC *

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During a study made some years ago[1] on the influence of environment on the pneumococcus-streptococcus group of micro-organisms, I noted marked changes in morphology, growth characteristics, infecting powers and immunologic reactions. Many of these changes appeared to be true mutations. Observations I have made since then, particularly during this epidemic, corroborate those findings and suggest the possibility that the present pandemic may be the result of infection by mutation forms of this group of micro-organisms. In studying the infecting power and other properties of streptococci when they are first isolated from tissues and foci of infection in various diseases including poliomyelitis, certain strains of streptococci which produce green discoloration on blood agar and which have peculiar infecting powers, specific immunologic properties and etiologic relationship have been found. In view of these facts, which are regarded as fundamental, it was thought possible that the peculiar clinical and pathologic picture of influenza, its accompanying pneumonia, and other lesions might be due to bacteria having peculiar infecting powers and other specific properties. The presence of a pandemic strain among the varieties of pneumococci and streptococci isolated by many observers was considered possible.

* Presented before the Federation of American Societies for Experimental Biology, Baltimore, April 26, 1919.

1. Rosenow, E. C.: Transmutations Within the Streptococcus-Pneumococcus Group, J. Infect. Dis. **4**: 1-32, 1914.

The somewhat peculiar green-producing streptococcus, described in a previous paper,[2] has now been isolated quite constantly from a large series of cases of influenza. In making cultures from the blood,

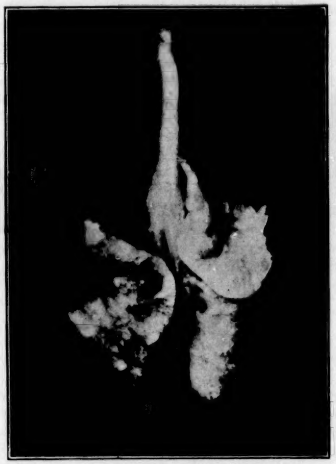


Fig. 1.—Lung of guinea-pig 761, injected intraperitoneally, showing hemorrhage, bronchopneumonia and emphysema. Total volume 12 c.c.

from the lung exudate, and from peribronchial lymph glands in patients who died from acute pulmonary edema and pneumonia, we were struck by the fact that the former was often sterile or contained few colonies and that the number of bacteria, particularly green-producing streptococci, were few in number in the latter as compared, for example, with that found in lobar pnuemonia. Following intraperitoneal injections in guinea-pigs of the sputum and cultures, invasion by this organism was found in most instances, but, as in persons with influenza, the number of organisms in the blood was strikingly small and far less than that found in animals dead from intraperitoneal injections of type pneumococci. A special mechanism for the cause of death was thus indicated. In the animals it was found that the organism, when injected intraperitoneally or intravenously, tended to localize in the lung and to produce hemorrhages and bronchopneumonia, associated with a varying degree of emphysema (Fig. 1). This was not noted in animals dead from intraperitoneal injections of type pneumococci. The average volume of the lungs, the total displacement of water of guinea-pigs weighing about 350 gm., was found to be as follows: normal guinea-pigs killed with chloroform, 5.2 c.c.; guinea-pigs dead of intraperitoneal injections of type pneumococci, 6.7 c.c.; and guinea-pigs dead from intraperitoneal injection of sputum and green-producing streptococci from influenza, 12 c.c. Since localization tended to be in the lung it was thought that direct application of the organism to the respiratory tract might afford better opportunity to study the peculiar infecting power of the bacteria found during this pandemic.

2. Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infection During the Present Pandemic of Influenza, Preliminary Report, J. A. M. A. 72: 31, 1919.

A simple method for intrabronchial injections of guinea-pigs was devised similar to that used in dogs by Lamar and Meltzer and in rabbits by Winternitz and Hirschfelder. Discarded ureteral catheters cut at an angle of 45 degrees with the margins rounded are used to make the injections. The guinea-pig is wrapped in a towel, the head held in place by the handles of an inverted artery forceps. The mouth is held open by spring wire retractors and the tongue is depressed by a suitable small instrument. Under a strong reflected light, properly shaded, the catheter is inserted into the larynx with a quick stroke before the contraction of the muscles of the epiglottis can divert the tube into the esophagus. The animal's sharp, quick cough and total inability to use its voice, and the sensation of the catheter's passing the tracheal rings, indicate that it has entered the trachea. The injections, varying from 0.1 c.c. to 2 c.c. in amount, are made slowly through the catheter with a syringe and needle.

By this method numerous experiments have been done with various strains of bacteria, including pneumococci, green-producing streptococci, hemolytic streptococci, staphylococci and influenza bacilli from persons with influenza as well as those from normal persons and other sources. The details of these experiments are reserved for subsequent reports; the purpose of this paper is to record a brief summary of the principal results obtained with strains of the green-producing streptococci and pneumococci belonging to Group IV from cases of influenza. By intrabronchial injection of these organisms a picture simulating influenza and

Fig. 2.—Lung of guinea-pig 851, injected intratracheally, showing coalescing bronchopneumonia of enlarged right lower lobe. Total volume 18 c.c.

pneumonia has been produced. Numerous animals have succumbed to acute pulmonary edema, to bronchopneumonia, to pneumonia involving whole lobes, and to acute hemorrhagic exudation in the pleura and peri-

cardium together with marked or slight lung involvement.

The lungs of these animals, as in persons with influenza, were often voluminous. Many showed acute symptoms resembling anaphylactic shock and typical bronchial spasm a few minutes after intratracheal injection. The type of respiration in the animals that lived twenty-four hours or longer was often very different from that in the animals having respiratory

a b

Fig. 3.—a, lung of guinea-pig 968, injected intratracheally, showing marked hemorrhagic edema and emphysema. Total volume, 22 c.c. b, lung of guinea-pig of same weight dead from spontaneous pneumonia. Total volume 6.5 c.c.

embarrassment from extensive consolidation of the lung following injection of pneumococci from lobar pneumonia, or of mass cultures from throats of normal persons. In the former, the chest was often in almost complete expansion, the animals were irritable and restless, expiration was prolonged and difficult, and breathing was accomplished chiefly with the diaphragm. Injections of epinephrin and atropin in large doses often relieved the respiratory embarrassment. In the latter group of animals the respiration was normal in character, excursions of the chest were free and easy, and the animals were quiet, but the rate was often much increased, depending on the amount of consolidation. Injections of epinephrin and atropin were without effect. The lungs in the first group were often extremely emphysematous and contained much hemorrhagic edematous fluid (Fig. 2). The massive bronchopneumonia was the rule in the animals that died late (Fig. 3). The rupture of alveoli, manifested as subpleural blebs, has been noted in animals showing extreme emphysema and hemorrhage. In a number, air was found in the mediastinal tissues, and several showed subcutaneous emphysema about the thorax. Sections of the lungs showed extremely narrow lumens of bronchi often filled with exudate. The mucous membrane appeared in great folds and the cartilages in the wall of the larger bronchi were often distorted as a result of the extreme spasm of the bronchial muscles (Fig. 4). The marked constriction of bronchi must have occurred before death and was not due to the fixation in 10 per cent. formaldehyd solution, since the total volume of lungs after fixation in formaldehyd solution (Kaiserling's solution) was found to be only about one-sixth less than that of the fresh lung. This picture is identical to that of the anaphylactic lung obtained by the usual methods, except that marked edema and hemorrhage occurred in the mucous membrane of the trachea and bronchi and in the interstitial tissue and the alveoli. The lungs of animals injected with type pneumococci, or with mass cultures from influenza and from normal persons, were not much larger than normal. The mucous membrane of the trachea and bronchi appeared normal. There was little hemorrhagic edema, but a variable amount of consolidation occurred, usually of the lobar type. The bronchi were not constricted and the dilatation of alveoli was absent. In addition to the picture in the lung, many of the animals aborted and many showed localization in the uterus. The picture of influenza was simulated in still other ways. There was delayed coagulation of the blood obtained from the heart and lung exudate in the animals, as in persons dead from influenza. Leukopenia usually occurred following injection of the strains. Leukocyte counts were made in 195 animals, following injections of numerous strains and their filtrates. Eighty-eight of these showed marked leukopenia, forty-one moderate leukopenia, thirty no change, thirty marked increase, and thirteen slight increase in leukocytes. The strains from patients showing marked leukopenia produced, usually, leukopenia in animals, while those from patients with leukocytosis usually produced leukocytosis in animals. Many animals (Table 1) showed leukopenia for a day or two; they appeared sick or prostrated; and, as recovery ensued, the leukocyte count increased. A persistent leukopenia was the rule in the animals that died.

In Table 1 are given the leukocyte counts in a series of animals following the injection of a number of strains, together with controls injected with type pneumococci. All but one of nine animals injected with Strain 2800 showed a marked or moderate leukopenia,

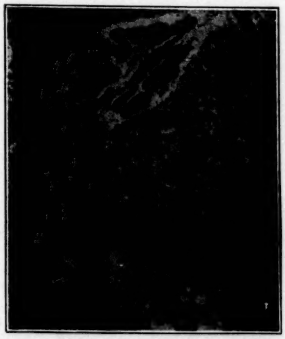


Fig. 4.—Section of lung shown in Figure 3 a, showing marked dilatation of alveoli, extreme contraction of bronchi, interstitial and alveolar hemorrhage, and infiltration. Hematoxylin and eosin. × 70.

while one showed slight leukocytosis. This difference in the behavior of an occasional animal was noted with other strains. The results as shown in Table 1 represent in a general way those obtained throughout these experiments. In some instances the cultures and their filtrates became so toxic that very small doses sufficed to cause hemorrhagic edematous frothy fluid to exude from the nose and mouth before death, and marked emphysema and hemorrhagic edema of the lung were

found after death. One filtrate was so toxic that the instillation of 0.3 c.c. into the nostrils of a guinea-pig caused death in forty minutes from hemorrhagic edema and emphysema of the lung.

The freshly isolated strains from influenza and its accompanying lesions have been found to produce relatively large amounts of "anaphylatoxin" both in vitro and in vivo. The idea that the "virulence" of these bacteria may depend in part on their ability to produce "anaphylatoxin" is in accord with my[3] previous findings that virulent pneumococci and their filtrates produce a larger amount of this toxic substance than avirulent pneumococci. The picture in animals is clearly that of an anaphylactic intoxication, and suggests that the symptoms and lesions in man as recorded by numerous observers may likewise be due to this cause in which sensitization of the host to the bacterial proteins may or may not play a part. Findings as follows indicate this mechanism: (1) the delay in the coagulation time of the blood, leukopenia and cyanosis; (2) the marked tendency to develop acute pulmonary edema with a distended lung and relatively immobile expanded chest, and extreme respiratory effort; (3) the voluminous lung as found at necropsy; (4) the occurrence of the rupture of alveoli and consequent subcutaneous emphysema (bronchial spasm); (5) the frequency of abortion (contraction of unstriped muscle) and other uterine disturbances.

From this study it is clear that among the green-producing streptococci isolated by many observers in influenza and the accompanying pneumonia, a strain or strains occur which possess marked and peculiar virulence. By intratracheal injection of these strains the picture of influenza has been closely simulated.

PROTOCOLS ILLUSTRATIVE OF SOME OF THE RESULTS OBTAINED

PROTOCOL 1.—Guinea-pig 761, weighing 350 gm., was injected intraperitoneally, Nov. 26, 1918, with 3 c.c. of the dextrose-brain-broth culture from a single colony of the green-producing streptococcus isolated on blood agar plates from the sputum of a typical case (Strain 2611) of influenza. November 27 the animal appeared quite well; November 28 it appeared sick, respirations had increased. November 29 it was found dead. Serofibrinous peritonitis and moderate emphysema of the lungs, a total volume of the lungs of 12 c.c., localized hemorrhagic edema and bronchopneumonia of the right apical, cardiac and diaphragmatic lobes were found. The lung was edematous on the cut surface, and the edematous areas were surrounded by marked emphysema (Fig. 1). The pleura was normal. November 30, blood agar cultures of the blood revealed a moderate number of green-producing streptococci and a few staphylococci; those of the lungs showed a large number of green-producing streptococci and a few staphylococci; while blood agar cultures of the peritoneal exudate revealed countless numbers of green-producing streptococci and many staphylococci.

PROTOCOL 2.—Guinea-pig 851, weighing 500 gm., was injected intratracheally, Dec. 28, 1918, with 0.5 c.c. of the dextrose-brain-broth culture of a green-producing streptococcus from the sputum of a case of typical influenza (Strain 2749) after one animal passage. Jan. 3, 1919, the animal died. Marked cloudy swelling of the myocardium, distention of the right

TABLE 1.—THE LEUKOCYTE COUNT FOLLOWING INJECTION OF GREEN-PRODUCING STREPTOCOCCI FROM INFLUENZA

No.	Inoculation: Dose in c.c. of Dextrose Broth Culture	Inoculation: Strain and Place of Isolation	Place of Injection	Leukocyte Count: Before Injection	Leukocyte Count: Hours after Injection: 24	48	72	Leukocyte Count: After Death	Duration of Experiment in Days	Results
P. 959	0.1	2,800 sputum	Trachea	16,400	6,200	19,000	14,400	.....	..	Recovery
P. 961	1.5	2,800 throat	Subcut. tissue	10,400	1,600	.....	1,400	12,600	4	Death; subcutaneous cellulitis
P. 955	1.5	2,800 throat	Trachea	16,000	21,000	17,000	19,400	.....	..	Recovery
P. 964	1.5	2,800[2a] throat	Trachea	15,000	3,100	.....	.....	3,100	1	Death; hemorrhagic edema and emphysema of lung
P. 969	2	2,800[2] throat	Vein	12,000	4,200	.....	.....	4,400	2	Death; hemorrhagic edema and emphysema of lung
P. 981	1.5	2,800.2 blood	Trachea	8,000	2,000	6,300	12,000	.....	..	Recovery
P. 985	1.5	2,800.2 blood	Trachea	9,600	6,200	14,000	.....	.....	..	Recovery
P. 1043	2	2,800.2[3] blood	Trachea	16,800	2,000	.....	.....	4,400	1.5	Death; hemorrhagic edema and emphysema of lung
P. 1056	2	2,800.4 blood	Trachea	12,000	6,600	5,000	8,000	8,000	3	Death; bronchopneumonia
P. 960	1	2,769[2] sputum	Trachea	7,400	2,200	2,500	.....	.....	4	Death; bronchopneumonia
P. 952	1.5	2,795.3 sputum	Trachea	16,200	.....	28,000	17,000	6,500	4	Death; bronchopneumonia and hemorrhagic edema
P. 1004	1.5	2,839 throat	Trachea	13,000	.....	2,600	.....	2,600	2	Death; hemorrhagic edema and emphysema
P. 1019	1.5	2,839 throat	Trachea	22,400	5,400	.....	.....	5,400	1	Death; hemorrhagic edema and emphysema
P. 1174	1.5	2,961.2 stool	Trachea	18,000	6,800	9,400	.....	9,400	2	Chloroformed; lobar pneumonia
P. 1023	1.5	Pneumococcus III	Trachea	6,600	4,400	7,800	.....	.....	..	Recovery
P. 1025	1.5	Pneumococcus III	Trachea	6,800	6,800	6,800	.....	.....	..	Recovery
P. 1026	1.5	Pneumococcus II	Trachea	14,400	5,400	9,000	.....	.....	..	Recovery
P. 1027	1.5	Pneumococcus II	Trachea	16,800	16,600	15,400	.....	.....	..	Recovery
P. 1031	1.5	Pneumococcus IV	Trachea	13,200	18,600	17,500	.....	17,500	2	Death; lobar pneumonia

* The figure to the right and above the figures indicating the strain designates the animal passage; the one following the period, the subculture.

ventricle, hemorrhages in the adventitia of the pulmonary artery, voluminous lungs weighing 20 gm., with a total volume of 18 c.c., and marked hyperemia of the mucous membrane of the trachea and bronchi were found. The right diaphragmatic lobe was almost completely consolidated. The consolidattion was clearly lobular in character, but numerous similar areas were completely coalesced. The left pleura was normal and the right was covered with a thick layer of adherent fibrin, particularly opposite the gray areas of consolidation (Fig. 2). There were no areas of softening; but a number of circumscribed areas of hemorrhage and edema in the emphysematous lobes were noted. Jan. 4, 1919, blood agar plate cultures of the blood showed a few colonies of the green-producing streptococcus; the pleural exudate, the pneumonic lung, the kidneys, and the mucous membrane of the nose showed countless numbers, while the edema fluid from the circumscribed areas in the emphysematous lung and the adrenals showed a few.

PROTOCOL 3.—Guinea-pig 968, weighing 380 gm., was injected intratracheally Jan. 14, 1919, at 3:30 p. m., with 2 c.c. of the dextrose broth culture of the hemorrhagic vaginal discharge from a fatal case (Strain 2800) of influenza. Blood agar plates of the culture injected showed countless numbers of green-producing streptococci and a moderate number of colon bacilli. At 7:30 p. m., the respiration was difficult and greatly increased. The animal was restless and irritable and coughed

3. Rosenow, E. C.: On the Toxicity of Broth, of Pneumococcus Broth Culture Filtrates, and on the Nature of the Proteolytic Enzyme Obtainable from Pneumococci, J. Infect. Dis. **11**: 286-292, 1912.

at intervals. At 7:40 p. m., the condition was worse; respirations were extremely rapid and labored, and a bloody fluid was noted about the nostrils. At 7:42 p. m., the animal had a violent attack of bronchial spasm, in which it threw itself about in the effort to breathe. It bled profusely from the nose and mouth, and died three minutes later. The lungs were heavy and enormously distended; their total volume was 22 c.c. (Fig. 3 *a*). Numerous large and small hemorrhages were found throughout all the lobes. The alveoli, in places, appeared at the rupturing point. There was a small amount of bloody fluid in the pleural cavities. A large amount of bloody frothy fluid escaped from the larynx, and the nostrils were filled with similar material. The cut surface of the lung was extremely moist, dark red, and a large amount of hemorrhagic frothy fluid escaped. There were two small hemorrhagic fetal masses, one in the vagina and the other at the bifurcation of the uterus. The uterine horns were hyperemic. The placental mass surrounding the fetuses was hemorrhagic. A number of small hemorrhages were found in the mucous membrane surrounding the point of placental attachment. The amniotic fluid was clear and smears showed no bacteria.

January 16, the blood and mucus from both horns of the uterus were sterile. The lungs and kidneys showed a large number of green-producing streptococci and colon bacilli; the pleura showed colon bacilli, and the adrenal, spleen and liver showed a few colonies of colon bacilli.

Sections of the lungs showed a striking picture of marked contraction of the bronchi, extreme dilatation of the smaller vessels, interstitial hemorrhage and cellular infiltration alternated with areas showing marked dilatation of alveoli. The dilated alveoli were often distended with edema fluid, blood corpuscles and leukocytes, or they were empty (Fig. 4). In the denser areas of hemorrhage and infiltration, the outline of the walls of the alveoli were wholly lost from edema and infiltration of interstitial tissue. The denser areas of infiltration were situated around the bronchi. A large number of gram-staining diplococci and a few bacilli were found in the infiltrated areas, both within the alveoli and the interstitial tissues.[4]

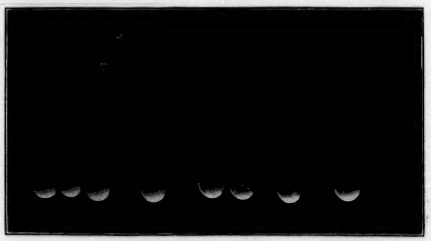


Fig. 5.—Photograph of experiment showing specific agglutination of streptococcus (Strain 3276) from influenza. Dilutions of serums 1-20. Tubes 1, 2, and 3 contain pneumococcus Types I, II and III serums; Tube 5 contains hemolytic streptococcus serum, Horse 9; Tubes 7 and 8 contain the monovalent serum following the injection of one strain of green-producing streptococcus from influenza, the former from a bleeding made March 3, the latter from a bleeding made May 4. Note the greater agglutination in the latter serum, Tube 8; Tube 10 contains normal horse serum; Tube 12, salt solution.

III. THE OCCURRENCE OF A PANDEMIC STRAIN OF STREPTOCOCCUS DURING THE PANDEMIC OF INFLUENZA *

The uniformity of symptoms in typical influenza suggests that the cause is a single bacterium having pandemic characteristics. The uniformity of the isolation of the somewhat peculiar green-producing streptococcus, previously described,[5] early in influenza and in the accompanying pneumonia, and the regularity of the invasion by this organism following the injection in guinea-pigs and mice, indicated early in the work that a pandemic strain might be found among this group of streptococci. The experiments following intratracheal injection, in which the picture of this disease is closely simulated, further indicate this possibility, and immunologic experiments were therefore instituted. I wish briefly to record here the main results obtained.

The serum of convalescent patients has been found to agglutinate specifically some of the more sensitive strains. The increase in agglutinins has been noted as early as the third day of typical influenzal attacks. The serum of cases that occurred early in the epidemic is found to agglutinate strains isolated then and kept in 50 per cent. glycerol as well as those isolated now, and vice versa. The results given in Table 2 suffice to illustrate those obtained in a large series of cases. The amount of agglutination with the different strains varies greatly and some strains are not agglutinated at all.

A monovalent immune serum has been prepared in a horse with one of these strains isolated from the blood in a typical fatal case. The horse has been injected with increasing amounts, first with the dead bacteria and later with the living. The serum has developed marked agglutinating power (Fig. 5) over these strains, agglutination occurring in dilutions up to 1:1,000 and 1:10,000.

The agglutinating power of various immune horse serums, as indicated in the tables, has been tested against numerous strains isolated from the sputum, throat, blood, and lung exudate. The well known methods for determining types of pneumococci, with minor modifications, were used. These included the animal inoculation method as worked out by Cole and the dextrose-blood-broth method as worked out by Avery. The various serums indicated in Table 3, were diluted 1:10 and equal amounts of this and the broth culture or suspension (0.2 c.c.) were placed in each tube and mixed, incubated one hour, placed in the ice chest over night, and then readings were taken. This dilution was found, after a series of titrations, to be best suited for routine purposes. Specific agglutinations with the monovalent serum as indicated in Table 3 have thus far been obtained in sixty-five of a total of ninety-eight cases studied. Some of these strains, just as has been found to be the case with the streptococcus from poliomyelitis, lose their specific character promptly on cultivation, while others remain susceptible to specific agglutination months after isolation. This was anticipated in the beginning of the work, and dense suspensions of the freshly isolated strains were placed in 50 per cent. glycerol. This method was proved efficacious in studying the specific properties of the poliomyelitis strains, and has been found equally useful in this study. Many strains isolated in the beginning of the epidemic are agglutinated specifically by this serum prepared with a single strain isolated early this year (January, 1919), just as are the strains from typical influenza isolated since then. The cases studied came from widely separated communities. Most of the negative agglutinations occurred when the

4. In addition to the references already given, the following will be found of interest:
Lamar, R. V., and Meltzer, S. J.: Experimental Pneumonia by Intrabronchial Insufflation, J. Exper. Med. **15**: 133, 1912.
Winternitz, M. C., and Hirschfelder, A. D.: Studies upon Experimental Pneumonia in Rabbits, Parts I and II, J. Exper. Med. **17**: 657, 1913.

5. Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infection During the Present Pandemic of Influenza.—Preliminary Report, J. A. M. A. **72**: 31-34 (Jan. 4) 1919.

cultures were made during convalescence. The results in some typical cases, however, suggest the possibility of subgroups. The specific strain, according to this test, has been isolated from the sputum as early as the first day of influenza, from the sputum in the accompanying pneumonia, and from the blood and lung exudate after death. It tends to disappear promptly during convalescence and is rarely found in normal throats. Strains of green-producing streptococci from a wide range of sources are rarely agglutinated by this serum. In studying the agglutinating power of various immune serums over strains from the sputum daily or on alternate days throughout the disease, it has been found that the strains are agglutinated specifically by this serum throughout the course in typical cases in which the patients recover without developing pneumonia or in which the pneumonia is of short duration. This is not usually true, however, of patients with protracted or recurring pneumonia, especially those who die (Strain 3276, Table 3). In these there may be a shifting of agglutination to pneumococcus serums, Types II or III, to hemolytic streptococcus serum, or, more often, they may not be agglutinated by any of the serums. Most of the specific strains, according to this test, do not ferment inulin and are not bile-soluble.

The results obtained in this series of experiments are illustrated, in the main, in Table 3. It will be noted that the primary cultures (Strains 3208, 3297, 3301, 3302, 3276) and the peritoneal washings from mice (Strains 3225,[2] 3226,[2] 3227,[2] 3231[2]) were agglutinated specifically by this serum (Horse 15) in every instance as were the cultures from single colonies after animal passage (Strains $3208^{3}.2$, $3276^{3}.2$). The result in the third column (Strain 3208.2) shows that it is not always possible to fish the specific strain when the sputum or other material is plated directly.

Many strains of the green-producing streptococcus from influenza have acquired hemolytic power in my hands and resemble closely the hemolytic streptococci isolated from some of the cases, especially after death. The close relationship of the green-producing strains to hemolytic streptococcus is indicated, moreover, by the fact that the hemolytic streptococcus serum commonly manifests decided agglutinating power over them (Table 3).

The agglutination experiments show that the green-producing strains of streptococci from influenza are immunologically identical or closely related. If this is true, single highly agglutinable strains should absorb the specific agglutinins from the serum for all the rest. This has been found to be the case in a large number of tests. Strains isolated in the beginning of the epidemic absorb the agglutinins so that a large number of strains isolated recently are no longer agglutinated. The results with a number of these strains are given in Table 4. It will be noted that while the specific strain absorbed the agglutinins, Type II pneumococci, which were not agglutinated, removed few or no antibodies.

The symptoms and lesions of influenza have been closely simulated in guinea-pigs by the intratracheal application of green-producing streptococci from influenza. The existence of a pandemic strain among the green-producing streptococci or diplostreptococci in influenza is shown by the immunologic studies summarized in this paper.

TABLE 2.—AGGLUTINATION EXPERIMENTS WITH HUMAN SERUMS

Serums from Influenza (Dilutions 1-10)	Day of Disease	Strains from Influenza						Control
		3271[2].3 Sputum	3296[2].2 Sputum	3331 Sputum	3333.2 Sputum	3333.2 Throat	3334.2 Sputum	Strain 3323.3
3074 (normal)	..	0	++	+	++	+	0	0
3075 (normal)	..	0	++	0	0	+	+	0
3076 (normal)	..	0	++	0	0	0	0	0
3282	..	++	++++	++	++	+++	++	0
3283	13	++	+++	++	+	+++	+	0
3331	6	++	++	+	+++	+++	++	0
3325	5	++	+	+++	+	+++	++	+
3334	5	+++	+++	++	++	++	++	0
3338	7	++	++++	++	+	++	0	0
3339	2	++	++++	++	++	++	++	0
3345	4	+++	+++	++	+++	++	+	0
3348	10	++	++++	+++	+++	++	++	0
3349	3	++	+++	+	+++	++	++	0
3349	9	++	+++	+++	+++	+++	0	0
NaCl	..	0	0	0	0	0	0	0

TABLE 3.—AGGLUTINATION OF STREPTOCOCCI FROM INFLUENZA BY IMMUNE HORSE SERUMS

Immune Serums (Dilution 1-20)	Strains from Influenza															Miscellaneous Sources						
	3293.2	3208	3208.2	3208[3].2*	3225[2]	3226[2]	3227[2]	3231[2]	3271	3297	3301	3302	3276	3276[2]	3276[2].2	3276	3276	3295 Lobar Pneumonia	3342 Lobar Pneumonia	3270 Bronchitis	3268[2] Pneumonia	3264[2].2 Lobar Pneumonia	Pneumococcus I. Pneumonia	Pneumonia in Guinea-Pig
Pneumococcus I	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	0	0	3+	0
Pneumococcus II	0	0	0	0	0	0	0	0	0	0	2+	+	0	+	0	+	2+	0	0	0	0	3+	0	0
Pneumococcus III	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	3+	2+	0	3+	0	0	0	0	0
Streptococcus (hemolytic from cellulitis) Horse 9	2+	+	0	3+	2+	3+	2+	2+	3+	0	0	0	2+	+	2+	+	0	0	0	3+	3+	0	0	0
Streptococcus (nonhemolytic from influenza) Horse 15	3+	3+	0	4+	3+	4+	3+	3+	3+	3+	3+	3+	3+	3+	3+	+	0	0	0	0	2+	2+	0	0
Normal horse	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	+	0	0	0	0	0	0	0	0
NaCl solution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* The figures to the right and above the figures indicating the strain indicate the animal passage, those to the right of the period indicate the culture generation.

TABLE 4.—SPECIFIC AGGLUTININ-ABSORPTION BY THE STREPTOCOCCUS FROM INFLUENZA

Mixtures (Dilution of Serum 1-40)	Strains										
	2068[2].2	2930[2].2	2874.13	3225[2]	3305.4	3332.3	3370.4	3389	3402.2	3404	3412	3415.2
Serum Horse 15	4+	3+	3+	2+	2+	3+	2+	2+	4+	2+	2+	3+
Serum Horse 15 after treatmeat with pneumococcus II	3+	2+	3+	2+	2+	2+	2+	2+	3+	2+	2+	2+
Serum Horse 15 after treatment with streptococcus from influenza	0	0	0	+	+	0	0	0	+	0	0	+
Normal horse serum	0	0	0	0	0	0	0	0	0	0	0	0
NaCl solution	0	0	0	0	0	0	0	0	0	0	0	0

CANCER OF THE PROSTATE

A COMBINED SURGICAL AND RADIUM METHOD OF TREATMENT

ROBERT H. HERBST, M.D.
CHICAGO

In 1915 Barringer described a method of treating cancer of the prostate by introducing a single needle containing radium through the tissues of the perineum into the tumor mass. It is a modification of this principle which I wish to present in this report.

While many excellent results have been obtained with radium in the treatment of superficial cancers, the results in the deeper seated neoplasms have not been very encouraging, owing largely to the difficulty of bringing the radium directly into contact with the involved areas. It is my belief that this is accomplished in cancer of the prostate by exposing the tumor both above and below and by inserting multiple needles, containing radium, in different directions, thus bringing the radium into contact with the most remote parts of the growth.

Fig. 1.—Operation for radium treatment of prostate cancer: *a*, suprapubic exposure of tumor, with the needles inserted in the tumor mass; *b*, needle carrier and needle; *c*, schematic view of position of needles after insertion.

Authorities differ as to the comparative frequency of carcinoma of the prostate, statistics varying from 15 to 40 per cent., although a majority believe that about one in five neoplasms of the prostate belong to the malignant class. It is interesting to note that while the earlier writers considered the condition as being infrequent, recent literature shows that such opinions have undergone a marked change. This can be well explained as being due to our broader knowledge of the condition, improved methods of diagnosis and a more thorough pathologic investigation of removed glands. We have all had the experience of removing a gland which we believe to be benign only to be informed by the pathologist that areas of malignancy had been found. Cancer of the prostate may develop as a new growth or as a malignant degeneration of a preexisting benign neoplasm, or it may appear coincidently with a simple hypertrophy. In order to define the type of tumor in which this method of needling the prostate is applicable, I will make the following classification:

1. The tumor may consist of a benign hypertrophy undergoing malignant degeneration or accompanied by beginning malignancy. These tumors are, as a rule, readily enucleated, and it is only on being examined microscopically that they are discovered to be malignant. This type is often benefited and sometimes cured by simple enucleation or by excision, as described by Young.

2. Another class of tumors begin as malignant growths in the lower periphery of the gland and gradually spread along the posterior part of the prostate to the seminal vesicles and ejaculatory ducts. These tumors are too far advanced for radical removal, but the symptoms can be greatly relieved, life prolonged, and the patient possibly cured by the judicious use of radium applied by means of needles, to be described in detail later.

3. In a third class of tumors the surrounding tissues have become involved, metastases have developed and there is a marked degree of anemia and cachexia. This type is beyond any form of treatment other than possibly drainage of the bladder to relieve retention.

SYMPTOMS

Unfortunately, the symptoms in cancer of the prostate are frequently not manifested until the condition is far advanced. This is particularly true of retention of the urine, which is a very early finding in benign hypertrophy. Irritability of the bladder may not develop until the disease has extended well up into the bladder neck. This is also true of hematuria. Although hematuria is a rather constant symptom, it is frequently of the terminal type. Pain at the end of urination is a common symptom. Pain accompanying the sexual act usually indicates the involvement of the lower end of the genital tract, the seminal vesicles and ejaculatory ducts. These patients sometimes complain of pain in the rectum radiating up the back, and down the thigh along the sciatic nerve. Residual urine is often a late manifestation. Rectal examination usually reveals a stony hard, irregular, asymmetrical, nodular prostate. The rectal tissues are not movable on the tumor, and the tumor appears to be fixed. The term "frozen" has been used to describe this immobility. The prostate may not necessarily be greatly enlarged, but when one finds a hard, immovable prostate in a man of advanced years, one should be apprehensive of cancer. Loss of weight and strength and a marked secondary anemia are found as in other malignancies.

DIAGNOSIS

The diagnosis of cancer of the prostate is not necessarily difficult in an advanced case in which the patient

complains of any or most of the foregoing symptoms, and on examination a hard, stony, immovable prostate is found. However, the patient to be most benefited is the one whose condition is discovered early, before many symptoms have developed, and in whose examination only a small, hard subcapsular nodule is found. In those cases in which there is a coincident carcinomatous development with a benign hypertrophy, the diagnosis of malignancy is frequently not made until the surgeon finds enucleation difficult or impossible. Whenever a prostate is enucleated with difficulty, one should be more than suspicious of malignancy. However, we must not lose sight of the fact that even easily enucleated glands on microscopic examination may show evidence of malignancy.

SELECTION OF CASES

Believing that radical excision of the malignant prostate cannot be carried out with any reasonable degree of safety and success except in the very early cases, we apply this method of radium needling to all advanced cases which do not show evidence of metastasis.

METHOD OF TREATMENT

A suprapubic cystotomy is made (usually under local anesthesia), with a liberal opening in the bladder wall so as to give easy access to the involved bladder neck, because in practically all these cases the tumor is fixed and cannot be pushed up into the bladder. A bimanual examination is then made to determine the limits of the tumor. By means of a needle carrier (Fig. 1 *b*), gold needles 1 inch in length, each containing 12 mg. of radium, are inserted into the tumor mass 1 cm. apart in different directions. The tumor is virtually converted into a pin cushion (Fig. 1 *a*). A silk guide, which is attached to each needle, is brought out of the suprapubic wound, and by means of it the needle is withdrawn. These needles are left in place for from twelve to fifteen hours, depending on how much of an exposure is desired. They are readily removed by traction on the silk guides. One such exposure will usually cause the removal of most of the upper part of the tumor, although this can be repeated after a few weeks if found necessary. As most of the tumors begin in the lower part of the gland, a second introduction of needles is made into this part of the tumor by making a dissection through the perineum and obtaining a complete exposure of the lower part of the prostatic mass (Fig. 2). It is well to allow from four to six weeks to elapse between the two steps of the operation. It may be readily seen that by this open method we are able to insert the unscreened radium directly into all parts of the tumor, and the action of the radium takes place in the center of the carcinomatous nodules. There is little reaction or pain following even long exposure. It is well to make the upper exposure first, because following the introduction of the radium a temporary swelling occurs, which is likely to cause complete retention, should the lower application be made first. I have not described this method of attacking the malignant prostate with the intention of reporting cures, because the number of cases treated has been too limited and the time since operation too short. However, some of the early results have been sufficiently encouraging to warrant reporting one of them, operation in which was performed ten months ago.

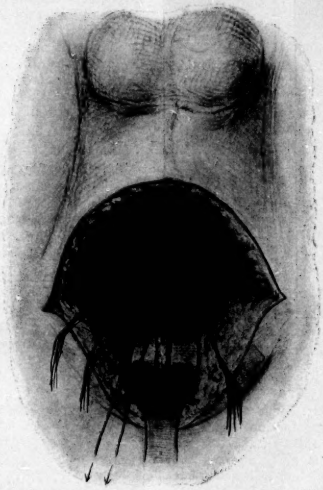


Fig. 2.—Perineal exposure of tumor with radium needles inserted.

REPORT OF CASE

A man, aged 66, was operated on about two years ago by an excellent surgeon for what was thought to be a benign hypertrophy of the prostate gland. On sectioning the removed tumor it was found to be malignant. The patient developed a prompt recurrence, and after a few months returned to the surgeon, who applied the radium to the tumor by introducing it into the rectum. Each one of these exposures, which were of short duration, with a moderate amount of radium, was followed by a severe reaction (radium, as a rule, is poorly tolerated in the rectum). After a number of these exposures the patient returned home in a greatly weakened condition, with little if any change in the size of the tumor. At this time he was referred to me. On examination I found a large, immovable, nodular mass occupying the site of the prostate gland. The patient was suffering from almost complete retention of urine, and catheterization was extremely difficult. He complained of severe pubic pain and great weakness. A suprapubic cystotomy was done and on inspecting the interior of the bladder, I found a large nodular mass projecting into the bladder in the region of the internal urethral orifice. By means of a needle carrier, eight needles, each containing 12 mg. of radium, were inserted into the tumor mass, about 1 cm. apart in different directions. These were allowed to remain twelve hours, and were easily removed by drawing on the silk guides attached to them. There was practically no reaction following this exposure. After six weeks the upper part of the mass had almost entirely disappeared. At this time a perineal section was made, thoroughly exposing the lower part of the tumor. A procedure similar to that described above was followed, and the needles were again allowed to remain in place for twelve hours. The wound was closed, sufficient space for the removal of the needles being allowed. Both suprapubic and perineal wounds healed in a few weeks. After a few months all that could be palpated was a moderate degree of infiltration along the urethra.

The patient returned recently for examination. Only a slight infiltration (probably fibrous tissue) could be palpated at the site of the tumor. He has regained all his lost weight, looks and feels well, has no residual urine, and his urinary function is good.

32 North State Street.

Responsibility.—City authorities are justly chanceable with the lives of all who die of preventable diseases within their jurisdiction, and they should be made responsible before the courts of justice.—Dr. Benjamin Rush.

Clinical Notes, Suggestions, and New Instruments

OSTEITIS FIBROSA

JOSEPH L. DECOURCY, M.D., CINCINNATI
Surgeon, Seton Hospital; Assistant Attending Surgeon, Cincinnati General Hospital

REPORT OF CASE

F. L., a boy, aged 12, referred by Dr. Carroll DeCourcy, was admitted to the Seton Hospital, Jan. 13, 1918, with a fracture of the upper third of the left humerus, due to his having slipped on an icy pavement when coming home from school. Examination of the arm by palpation elicited an elongated, bony swelling in the upper third of the humerus, with point tenderness, crepitation and mobility at the corner of the swelling. The patient gave a history of having been vaccinated ten months previously, the reaction following the vaccination having been very severe. Whether the vaccination was a causative factor, is uncertain. For the last ten months the patient had continually complained of dull, rheumatic pains in the upper part of his arm, and was treated by medication and by external applications without relief.

Fig. 1.—Arm of patient day following admission to hospital.

Fig. 2.—Arm of patient, one month after operation.

Fig. 3.—Arm of patient, ten months after operation; firm union between the two fragments.

The roentgenogram secured at the time of his admission to the hospital showed a rather marked absorption of bone in the upper part of the humerus, giving the impression of a cyst, and through this were shown fracture lines, considered to be pathologic features.

The operation, Jan. 18, 1919, revealed a cyst about 2½ inches in length, filled with bloody matter. The inside of the cyst wall was covered with what appeared to be granulation tissue. Because of the thinness of the cyst wall and the uncertainty of the diagnosis, the whole cyst, together with some healthy bone from each end, was resected, and a strip about 3 inches in length and one-fourth inch in thickness, of the boy's tibia, with periosteum, was transplanted into the medullary cavity of the upper and lower fragments. The periosteum was sutured over and the wound closed. The wound healed by first intention and the roentgenogram taken one month later showed the graft in position, with a large amount of callus covering it. Three months following the operation there is firm union between the two fragments.

On section, a few isolated giant cells were demonstrated. This, together with the gross appearance of the cyst, justifies us in making a diagnosis of osteitis fibrosa.

COMMENT

Eivind Platou,[1] in speaking of osteitis fibrosa, says that "trauma appears in many cases to be an etiological factor, although we are unable to explain how it can cause the disease or influence its genesis." In this case there was no history of trauma obtained, and if we can date the onset of the cyst from the vaccination, then it would seem that infection has played a part. It is possible that trauma so weakens the tissues that infection traveling in the blood stream can take hold.

It seems to be a matter of common agreement that the indicated treatment of these cases is curettage of the cyst cavity and then swabbing the cavity with some irritant for its stimulating effect. Bone grafting has been suggested in these cases a number of times, but does not seem to be in general use. It would seem that the uncertainty of the diagnosis of these cases from sarcoma, at the time of operation, would contraindicate curettage, for the same reason which contraindicates a removal of a section of a supposedly malignant tumor elsewhere. In other words, these bone tumors should be considered malignant until proved benign by microscopic study. And not alone for this reason, but because in the application of the bone graft we have a clean-cut piece of surgery which is uniformly successful in 100 per cent. of cases, if we can exclude infection, and its usage, in my opinion, should be encouraged in this type of case.

AN EXTRA TAG ON THE ABDOMINAL SPONGE*

J. C. MASSON, M.D., ROCHESTER, MINN.

The dramatic manner in which sponges are counted after each operation, in some hospitals, is evidence of the fact that "accidents still happen." It is quite probable that more medicolegal cases come to trial because something has been left in the operative field than because too much has been taken out of it.

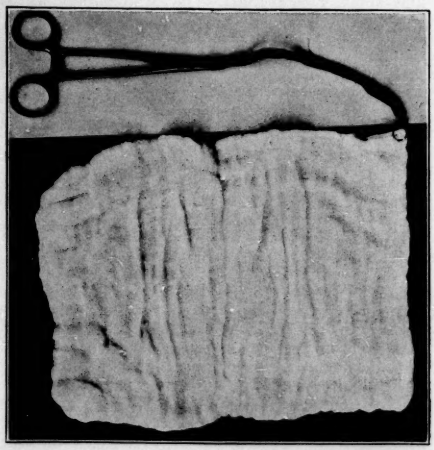


Fig. 1.—Abdominal sponge with ring attached.

Approximately 27,250 abdominal operations have been done at the Mayo Clinic within the last five years, and thirteen

1. Platou, Eivind: Osseous Cysts and So-Called Giant-Cell Sarcoma, Ann. Surg. **67**: 312 (March) 1918.

* From the Mayo Clinic.

were for the removal of sponges. In most of these thirteen cases the patients came from rural districts, and had been operated on for acute conditions by general practitioners who probably had had very mediocre assistance and were further handicapped by the confusion attendant at such operations. The only wonder is that such accidents do not happen

Fig. 2.—Abdominal sponge with ring attached.

more often in this kind of surgery. After a more or less stormy convalescence, the patient recovers from the operation; but he is left with a persistent sinus, and while he has the original operator to thank for having saved his life, if he learns that a sponge has been left in the wound and is the cause of the sinus, he will seldom hesitate to enter action for unlimited damages.

With a view to the special marking of all abdominal sponges, I have them made with a metal ring placed around the base of the tape and firmly sewed to both sponge and tape with strong thread. If a sponge is reported missing, the abdomen may be roentgenographed before it is reopened; the presence of the sponge will be revealed by the metal band. In hospital practice this procedure should be especially applicable, since if after a morning's work a sponge is reported

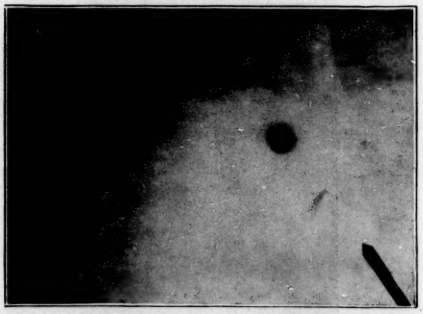


Fig. 3.—Roentgenogram showing sponge through a 200-pound patient.

missing and any one of two or three patients may be the unfortunate retainer, roentgenograms may be taken of all of them, and thus a difficult situation is cleared up with a minimum amount of trouble.

The Sin of Ignorance.—Every mind was made for growth, for knowledge, and in its nature is sinned against, when it is doomed to ignorance.—Channing.

USE OF SUPERFICIAL JUGULAR VEINS OF NECK FOR INTRAVENOUS INJECTIONS

DAVID J. KALISKI, M.D., NEW YORK

Not infrequently the practitioner is confronted with the difficult problem of finding superficial veins for the injection of arsphenamin or other arsenical preparations, saline solution or therapeutic serums, and for use in blood transfusion. To overcome this difficulty, I propose the more extended use of the external jugular veins.

In the majority of thin or muscular persons, especially men, the veins at the bend of the elbow in the cubital fossa are easily visible or palpable and should be chosen. Occasionally after numerous injections of arsphenamin these veins become occluded by thrombosis and are no longer available. In some cases these veins are mere threads and unsuitable for repeated injections. In obese persons, especially women, and occasionally in men and children with poorly developed veins, the operator is at a loss to find a suitable vessel into which to inject. Even the most skilful workers encounter these difficulties in hospital and private practice, and for this reason I have been prompted to describe my method of using the external jugular veins.

This method has been in use in selected cases in the wards of the Mount Sinai Hospital and in private practice, and hundreds of injections have been given without a bad result. The procedure is quite simple, presenting no greater difficulties than puncture of the veins of the arm, is not more painful, and is not attended with any greater danger to the patient. Indeed, up to the present time, I have not seen a single instance of thrombosis of

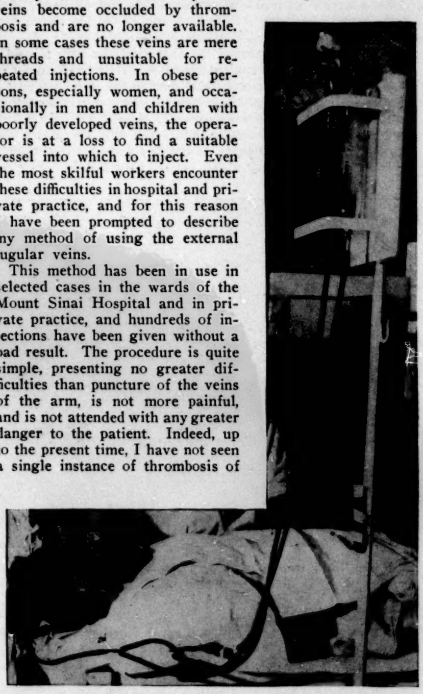


Fig. 1.—Method of making injection into external jugular vein (painted white), and apparatus used by the author.

the external jugular after injection of arsphenamin; and in a few instances the same vessel has been punctured repeatedly over a period of more than a year.

The external jugular veins arise in the region of the parotid gland, on a level with the angle of the lower jaw, and runs down in the direction of the clavicle. They are not infrequently double, and even in children are good sized vessels. They cross the sternocleidomastoid muscle in its upper part, and run parallel to its posterior border; but there are frequent anomalies in size and position. The vessels terminate behind the clavicle in the subclavian veins. In most instances the vessels are superficial, being covered by the skin, superficial fascia and the thin platysma muscle, and stand out prominently especially on forced expiration or inspiration with compression above the clavicle, or on straining or crying. The anterior jugular veins are also occasionally quite large, especially at their lower part, where

they approach and join the external jugulars. They are situated along the anterior border of the sternomastoid muscle.

TECHNIC

The patient reclines on a level table. No pillow is used, the head is turned slightly to one side. Compression may be made over the clavicle with the finger of the left hand in order to make the vein fill up and stand out more prominently while the right hand grasps the needle and pushes it through the skin and into the vein in a downward course in the direction of the vein axis. After practice in the method, almost any type needle may be used; but for greater ease of introduction, a needle with a shield like the writer's needle[1] is preferable. For arsphenamin and other therapeutic injections, a needle with a fairly sharp point, not too large bevel, and about 18 to 20 gage B. & S., about 1¼ to 1½ inches long, is most suitable.

In introducing the needle, the skin over the vein should be gently drawn upward toward the chin. This tends to fix the vein and to allow the needle to pierce the anterior wall of the vessel more easily. The skin of the neck is sometimes quite tough, and therefore the needle should not be too large or too blunt. As the needle enters the vein there is a perceptible "give" as the point enters the lumen. It should be advanced in the vein for about 1 cm. If the needle is properly

Fig. 2.—The external jugular vein stands out prominently because of fluid that is being injected.

in the lumen of the vessel, there is observed a slow dropping of blood from the needle, or a drop of blood comes into the hub of the needle (pressure above the clavicle having been removed) and is seen to advance and recede slightly on inspiratory efforts. It should be borne in mind that there is little bleeding from the jugulars compared with the amount of bleeding observed after puncture of a vein in the arm.

The apparatus best suited for injection is the gravity apparatus, and care should be taken to free the tubing of all air bubbles before beginning the infusion. Saline or water should precede the medicament. If the needle is in the vein properly, the injection will proceed without any pain or infiltration at the site of the puncture. Care should be taken after the fluid has been introduced to remove the needle before the tubing is entirely empty to prevent the entrance of air bubbles. A small glass window made by the insertion of an inch of glass tubing in the rubber tubing near the coupler at the hub of the needle renders this impossible.

The most convenient site for introduction of the needle is in the lower third of the neck, but occasionally the vein is more prominent in the middle third, and the puncture should then be done there.

1070 Madison Avenue.

1. Kaliski, D. J.: A Cannula and Needle for Blood Transfusion and Intravenous Infusions, M. Rec. **87**: 482 (March 20) 1915.

CROSS-RACIAL TRANSPLANTATION OF TESTES

FURTHER REPORT OF CASE

G. FRANK LYDSTON, M.D., CHICAGO

Through the courtesy of Dr. L. L. Stanley, surgeon to the state penitentiary at San Quentin, Calif., I am privileged to report further on Case 9, previously reported,[1] and to present a photograph of the condition of the implanted testes taken three months after the operation.

Condition of implanted testes three months after operation.

It will be recalled that the glands were taken from the body of a negro who had been hanged for murder, and implanted in the scrotum of a white moron, apparently with remarkable results. Supplementing his previous report, Dr. Stanley writes under the date of February 11, about five months after the operation:

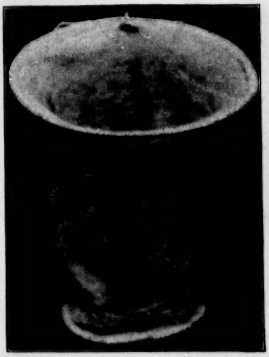
"The testicles in the case, a report of which I gave you, have since atrophied very little, and the patient has improved to a great extent. Several days ago he went out to our 'honor camp,' where prisoners are building highways. This camp is about 200 miles distant from the prison, and I shall not have an opportunity to see him until he returns. He is, however, so far improved physically that he is able to do heavy ordinary labor."

1. Lydston, G. F.: Further Observations on Sex Gland Implantation, J. A. M. A. **72**: 396 (Feb. 8) 1919.

A COFFERDAM INTESTINAL RETRACTOR

R. M. HARBIN, M.D., ROME, GA.

This inexpensive retractor is made in the form of a truncated cone by sewing a section of stocking around pliable copper rings. A dozen or more of different sizes will be found



Cofferdam intestinal retractor.

useful in the isolation of infected areas, in reaching inaccessible sources of hemorrhage and facilitating suturing without heavy packing and in searching for lesions causing intestinal obstruction.

RUPTURE OF A HYPERTROPHIC SPLEEN BY INDIRECT VIOLENCE

MAURICE P. ROGERS, M.D., ROCKFORD, ILL.

REPORT OF CASE

H. P. S., aged 68, a laborer, was admitted to Rockford Hospital, Nov. 26, 1918, stating that about one hour previously he had fallen into a ditch about 7 feet deep, striking his chest on the rim of the ditch.

At the time of his examination he complained of severe cramplike pain in the left upper quadrant of his abdomen. Slight contusions were found over the right upper thorax. The patient complained of severe tenderness on pressure over nearly the entire abdomen but more pronounced to the left of the umbilicus. There was a marked dulness extending into the flank and nearly to the midline. The pulse was 68; respiration, 20; temperature, 98.6; the urine was negative. Blood examination revealed: erythrocytes, 4,000,000; hemaglobin, 80 per cent.; leukocytes, 9,000. The patient's general condition seemed to be very good.

Under local anesthesia a high left rectus incision was made and on piercing the peritoneum large quantities of dark fluid blood poured through the incision. The patient was then anesthetized with ether and a thorough exploration of the upper abdomen was made. Almost immediately a very large spleen was exposed. On palpation a rupture about 6 cm. in length by 4 cm. in depth was exposed just opposite the hilum. The spleen itself was approximately 24 cm. in length, 12 cm. in width by 6 cm. in thickness and was densely adherent to the posterior parietal peritoneum. It was impossible, because of these dense adhesions, to draw the spleen into the incision without undue violence; consequently a wide gauze pack was pressed firmly into the site of the rupture and brought out through the abdominal incision. The pack was removed on the fifth day and the patient went on to an uneventful operative recovery.

On subsequent inquiry it was ascertained that the patient had had malaria about thirty years previously and that he occasionally still had recurrences of chills and fever.

I believe that we have here a case of rupture of the spleen by indirect violence, since the organ was firmly adherent posteriorly while at its anterior margin it was comparatively free. The patient stated emphatically that he did not strike his abdomen in falling, nor was there any external evidence of violence.

226 South Main Street.

HEMORRHAGE OF THE NEW-BORN—BLOOD TRANSFUSION VIA THE LONGITUDINAL SINUS—RECOVERY

HARRY LOWENBURG, A.M., M.D., PHILADELPHIA
Pediatrist to the Mount Sinai and Jewish Hospitals, Philadelphia

Baby H., a girl, 2 days old, was admitted to my service at the Mount Sinai Hospital, March 5, 1919, bleeding profusely from mouth, nose and rectum. There was nothing in either the family or the obstetric history which would suggest an etiologic factor. The attending physician, Dr. Charles Mazer, reported that the symptoms were inaugurated by hematemesis on the second day after delivery. The infant was in a weakened state and very pale. The cause of the bleeding was indeterminable. Over the telephone I instructed the intern to administer 10 c.c. of normal horse serum. This was done and, in addition, the infant received some physiologic sodium chlorid solution subcutaneously. I saw the baby the following day. It was still bleeding profusely from rectum and mouth. An examination of the mouth and nose was made by Dr. Arthur W. Watson, who was unable either to discover the cause or to suggest any local therapeutic measure. The patient appeared to be in a moribund state. The skin surface was blanched, the patient appearing to be exsanguinated; the respirations were rapid, shallow and irregular; pulse was accelerated and weak. The heart sounds were rather strong; the temperature was 102. The infant was apparently stuporous. Dissolution seemed to be a matter of minutes. Immediate blood transfusion was decided to be the only means of saving the child's life. The operation was undertaken by Dr. A. I. Rubenstone and myself. It was determined to inject the blood directly into the longitudinal sinus via the posterior angle of the anterior fontanel. The infant was removed to the operating room, the head shaved and iodin applied over the fontanel. About 80 c.c. of whole human blood were transferred from the donor to the infant directly into the sinus.

During the operation, which was concluded as quickly as possible, the patient ceased to breathe and was thought to be dead. Feeble heart sounds were, however, still audible. Eighty c.c. more of blood were injected directly under the skin of the abdomen. Artificial respiration was inaugurated, and after several gasps the respiratory function was established, but it was performed feebly. A bad prognosis was given. However, the color of the baby appeared better and bleeding ceased almost immediately. A second transfusion was contemplated, but proved to be unnecessary, as the general condition and color and weight improved with no other treatment than a properly adjusted artificial food mixture. For a short time the infant ran a somewhat irregular temperature, probably owing to the presence of foreign protein. No rashes, however, developed.

The following blood examinations were made:

March 5, 1919: hemoglobin (Von Fleischl), 20 per cent.; red blood cells, 1,400,000; white blood cells, 12,000; polymorphonuclears, 60 per cent.; small mononuclears, 39 per cent.; large mononuclears, 1 per cent.

March 21, 1919: hemoglobin, 65 per cent.; red blood cells, 2,360,000; white blood cells, 10,000; the differential count was of no interest.

April 1, 1919: hemoglobin, 80 per cent.; red blood cells, 3,600,000; white blood cells, 8,200.

2011 Chestnut Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ANTIMENINGOCOCCUS SERUM.—(See N. N. R., 1919, p. 270.)

The Gilliland Laboratories, Ambler, Pa.

Antimeningococcic Serum (Combined Type).—Marketed in ampule packages containing respectively 15 and 30 Cc. also in aseptic glass cylinders containing respectively 15 and 30 Cc. with sterile needle, stylet, and attachments for intraspinal administration.

Dosage: The recommended intraspinal dosage for the treatment of epidemic cerebrospinal meningitis is 5 to 15 Cc. for a child, and 30 Cc. or more for an adult.

Epilepsy Statistics.—Only 3.5 per cent. of epileptics in the United States are cared for in institutions; 200,000 persons in the United States suffer from epilepsy. Only thirteen states have colonies for the care of epileptics. They care for 7,000 patients. Of 1,000 cases studied, one in every three cannot write; one in every four can read and write; only 340 have a common school education; thirty-two have attended night school; four have attended college. Of 500 men studied, one in twenty-five had hemiplegia; of 500 women, one in thirteen had hemiplegia. The most frequent abnormality found at necropsy at both Craig Colony and Monson State Hospital (Mass.) was dilated lateral ventricles. Abnormalities in the pineal gland and the pituitary body have been met with very frequently in the Monson necropsies. Mental deterioration in epileptics is often in direct proportion to the frequency and severity of the convulsions. Proper food, regulated work and routine life lessen the frequency of the convulsions and postpone dementia.—Bull. Mass. Commission of Mental Dis., July, 1918.

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SATURDAY, MAY 31, 1919

THE BRAIN IN EARLY GROWTH

That the central nervous system occupies a superior position in comparison with other tissues of the body is suggested in various ways. Thus it has long been recognized that during a period of starvation the percentage of loss of weight suffered by the brain is far smaller than that suffered by other organs and tissue masses. There are recorded comparative analyses which indicate that even when the entire body experiences a diminution of size represented by far more than a third of its original weight, the decrease in the weight of the brain rarely amounts to 8 per cent. In fact, in young animals at the period of active growth, the brain weight may actually increase during a severe underfeeding which checks the increment of the organism as a whole.

Another unique feature of the central nervous system is exemplified in the early completion of its fundamental morphologic organization. The most detailed information of such facts has been derived from studies on lower mammals, such as the rat; but there are many reasons for assuming that the results obtained with this species correspond, with due allowance for differences in age and size, to the sequence of changes that proceeds in the human organism. Hence we may refer with some assurance to a recent study by Sugita[1] at the Wistar Institute of Anatomy in Philadelphia on the precocious organization of the cerebral cortex. He informs us that the size of individual cortical nerve cells, the total number of cortical cells, and the thickness of the cortex, all attain nearly their full values at the same time and very early in life (corresponding to the weaning time in some species), after which the maturation of internal structures of the cell body and the nucleus continues. The brain weight and the cortical volume continue to increase even after this stage throughout the postnatal life, though not so rapidly as during the early period. This later growth is due principally to the development of the cell attachments, intercellular tissues (neuroglia tissue and blood vessels), and the ingrowth of axons into the cortex and their myelinization, which together separate the cells from each other and cause an increase in cortical volume.

The facts now established that the cortex of the brain becomes provided very early in life with nearly all of the cellular elements necessary to it at maturity, and that the changes incident to growth are essentially those of enlargement of the cell bodies, growth of axons, and myelinization, help to explain the early completion of cerebral organization. According to Donaldson[2] and Sugita,[3] the human cortex should have attained nearly its full thickness at about the age of 15 months, when cell multiplication and the migration of cells into the cortex have come practically to an end.

Recent evidence further indicates that although underfeeding and partial starvation may retard the growth of the cortical cells in size and the formation of myelinated fibers, the number of neurons remains unmodified.[4] This makes it increasingly more likely that each species has in its nervous system a characteristic number of neurons—a number which is constant within the limits of biologic variation. Hence the somewhat smaller weight and size occasionally found for the brain of undernourished individuals is due to an arrest in the growth and development of the constituent neurons, and not to a decrease in their number.

Donaldson has well represented the significance of such studies on the early development changes in the brain. Commenting on the fact that the cerebral cortex has attained its thickness at 15 months of age so that it must later undergo a large increase in area without any significant change in thickness, he[2] remarks: "All this shows that the important events in the postnatal growth of the nervous system occur early in life, and this in turn emphasizes the paramount importance of favorable conditions during the first three years of childhood."

THE SYSTEMIC EFFECTS OF SEVERE EXPOSURE TO ROENTGEN RAYS

Prolonged exposure to roentgen rays may be followed by a marked general systemic or constitutional reaction as well as by the more familiar epithelial symptoms known as skin burns. The dermatitis of the latter sort was the first of the manifestations to be discovered and described; but it is by no means always the more serious or even the more conspicuous effect. In recent times more particularly, the improved

1. Sugita, N.: Comparative Studies on the Growth of the Cerebral Cortex, VIII, General Review of Data for the Thickness of the Cerebral Cortex and the Size of the Cortical Cells in Several Mammals, Together with Some Postnatal Growth Changes in These Structures, J. Comparative Neurol. **29**: 241, 1918.

2. Donaldson, H. H.: Growth Changes in the Mammalian Nervous System, the Harvey Lectures 1916-1917, Philadelphia, J. B. Lippincott Company, p. 113.

3. Sugita, N.: Comparative Studies on the Growth of the Cerebral Cortex, II, On the Increase in the Thickness of the Cerebral Cortex During the Postnatal Growth of the Brain, J. Comparative Neurol. **28**: 511, 1917.

4. Sugita, N.: Comparative Studies on the Growth of the Cerebral Cortex, VII, On the Influence of Starvation at an Early Age on the Development of the Cerebral Cortex, J. Comparative Neurol. **29**: 177, 1918.

tubes in use have made it possible to administer "massive doses" to structures beneath the skin so that the latter will escape the danger of a burn.

The clinical symptoms of the systemic reaction in the interior of the body resemble somewhat an acute intoxication. They include extreme prostration, together with such gastro-intestinal symptoms as vomiting and diarrhea. Edsall and Pemberton,[1] who were among the first to attempt a scientific elucidation of these constitutional symptoms, regarded them as due to a sudden demand on the organism for the complete disintegration and excretion of a large amount of the products of tissue breakdown. They assume an inability on the part of the organism to accomplish this in these cases, and a consequent "halting of metabolism," resulting in an intoxication produced by incompletely disintegrated tissue remnants.

More recently, Hall and Whipple[2] have conducted highly desirable experimental investigations at the University of California Medical School on the general constitutional reaction which follows prolonged exposure to the roentgen rays of the Coolidge tube. They are inclined to classify the effects under the caption of "nonspecified intoxications," making them comparable with the conditions observed in intestinal obstruction or in acute pancreatitis, for example. Bacteria and specific toxins or antibodies cannot be concerned in the roentgen-ray effects. Conspicuous among the metabolic phenomena is the marked increase in the urinary nitrogen output and also in the nonprotein nitrogen of the blood.

All observers agree that there is increased breakdown of body protein in consequence of severe roentgen-ray treatment. But how is the accumulation of the disintegration products in the blood to be accounted for? Is kidney irritation an accompanying manifestation? Thus far there has been no convincing indication of the existence of a roentgen-ray nephritis. The only abnormality of a gross sort discovered in the more recent investigations is a probable epithelial injury in the intestinal mucosa. Hall and Whipple assert that in the fatal cases the epithelium lining the intestinal crypts may show actual necrosis and invasion of polymorphonuclear leukocytes. They affirm that this epithelium also shows a remarkable speed of autolysis, and may vanish by self-digestion within a few hours postmortem.

If the observations of the California investigators on the sensitiveness of the small intestine to large doses of roentgen rays are correct, the injury noted may serve to explain the general intoxication attended with gastro-intestinal symptoms. Whipple is, further, inclined to correlate the clinical picture of fatal roentgen-ray intoxication with that which he and his co-workers[3] have described as that of acute intestinal obstruction. As he maintains, death may take place at about the same interval after the initial injury or obstruction. Violent gastro-intestinal disturbances dominate the picture in both conditions, and there is every evidence of great tissue injury and increased tissue catabolism. In each case the intestinal epithelium seems to be involved.

What is now known of the effects of the roentgen rays used in therapeutic doses thus seems to justify their designation as a "nonspecific" reaction. It may be that the primary action is on the tissue proteins so as to form cleavage products which are further toxic to the organism; just as in a heat burn, harmful products are found and, being absorbed, induce signs of intoxication. The widespread employment of roentgen-ray therapy forms a sufficient justification for more profound investigation of the metabolic phenomena of the procedure. Only in this way can its dangers and its possible unsuspected "nonspecific" therapeutic potencies be ascertained.

1. Edsall, D. L., and Pemberton, R.: The Nature of the General Toxic Reaction Following Exposure to the X-Rays, Am. J. M. Sc. **133**: 426, 1907.
2. Hall, C. C., and Whipple, G. H.: Roentgen-Ray Intoxication: Disturbances in Metabolism Produced by Deep Massive Doses of the Hard Roentgen Rays, Am. J. M. Sc. **157**: 453, 1919.
3. Whipple, Cooke and Stearns: J. Exper. M. **25**: 479, 1917.

THE PHYSIOLOGY OF STAMMERING

The dictionary defines stammering or stuttering as consisting in making involuntary stops in uttering syllables or words—a halting, defective utterance. Fortunately the time has gone by when any except the most inerudite regard stammering as primarily due to an anatomical defect of the mouth or the throat. It has become clear that the nervous system is in some way responsible. Various systems of overcoming stammering have been introduced with considerable success. The greatest promise of controlling this most embarrassing interruption of speech lies in ascertaining, first of all, precisely what physiologic and psychologic factors enter into and condition its manifestations.

Bluemel[4] has defended the hypothesis that stammering is the result of cerebral congestion. There is reason to believe that such a circulatory disturbance affects speech as readily or even more easily than it does any other activity. The cerebral congestion is assumed, on Bluemel's theory, to blur verbal imagery, especially auditory verbal imagery. A transient auditory amnesia in the auditory speech center makes it "impossible for the stammerer to recall, for the time being, a part or the whole of the word he wishes to speak at the moment he has to say it."

Fundamental in establishing the validity of the views just set forth is the demonstration that cerebral congestion actually occurs in the process of stammering. Every one knows from casual observations that stammering may be induced or accentuated in susceptible persons by emotional states. Such psychic distur-

4. Bluemel, C. S.: Stammering and Cognate Defects of Speech, New York, 1913.

bances are, furthermore, demonstrably accompanied by vasomotor changes. Experiments have been reported to show that certain forms of shock, i. e., responses to unexpected psychic stimuli, are always accompanied by vasoconstriction in the peripheral blood vessels and by vasodilatation in the brain. The evidence has been obtained by studying the circulation simultaneously in a limb and through a trephine wound in the skull. Postulating that the interrelation between peripheral vasoconstriction and cerebral vasodilatation has a more general validity, Robbins[5] has studied the peripheral circulatory changes in stammerers at the Harvard Psychological Laboratory. Comparing them with normal persons he found in stammerers approximately the same vasoconstriction at the periphery as has been recorded for the sudden stimuli popularly called shocks. Thus, when an unexpected sound, a harsh command, or a cause of fright initiated the familiar inability at verbal expression, plethysmographic records of the finger or arm invariably showed a vasoconstriction. Robbins summarizes: "Long stimuli are accompanied by greater vasoconstriction and slower recovery than are short stimuli. . . . The more intense the stimulus and the more unexpected the stimulus, the greater is the vasoconstriction, the more rapid the vasoconstriction and the slower the recovery. . . . The greater the vasoconstriction, the more is verbal imagery impaired. . . . Those subjects who experience the greatest vasoconstriction during shock and stammering also require the longest time for recovery." Robbins' records show that "peripheral vasoconstriction continues throughout the stammering interval; if any vasomotor change accompanies normal speech it is vasodilatation in a large majority of periods." Furthermore, "fear of stammering with no attempt at speaking produces vasoconstriction in the periphery as does actual stammering. Stammerers cannot speak without hesitancy during vasoconstriction."

The deduction, from these experiments, that stammering, like fright and other forms of "mental shock," is accompanied by cerebral congestion has a high degree of probability but still requires actual demonstration. A satisfactory solution could doubtless be found if it were possible to conduct observations, as Robbins hopes to do, directly on the brain of some stammerer who has been trephined. Meanwhile we may recall, by way of analogy that persons often "lose their heads" through fright, becoming unable during the cerebral congestion to perform muscular efforts of a variety of sorts with customary efficiency. In a practical way it may be helpful to bear in mind the following logic of Robbins:

As vowels are governed primarily by auditory imagery they are the stammerers' bugbears. The stammerer prolongs continuous consonants for seconds and repeats closed consonants over and over until able to recall the vowel that follows. The more the vowel is inhibited, the harder he forces out the preceding consonant, the more he thereby increases cerebral congestion, the more impossible it becomes to recall the vowel, and the worse he stammers. Many stammerers are thus led to believe that their trouble lies with the consonants they thus overdo and, by concentrating their mind on trying to force out these consonants, they keep the mind from recalling the vowel which fails to come promptly, and thus they increase their stammering.

5. Robbins, S. D.: A Plethysmographic Study of Shock and Stammering, Am. J. Physiol. **48**: 285, 1919.

THE STUDY OF BACTERIAL NUTRITION

The bacteria have at length acquired a position in the domain of research which takes them beyond the elementary stage of systematic classification. It is no longer fashionable or profitable merely to arrange the different micro-organisms in an orderly scheme whereby they can be identified; nor does the young science of bacteriology content itself solely with the search for microbial agents of disease or the mere descriptions of varied bacterial floras. Biologic chemistry has made an inroad into the field, bringing along the modern conceptions that have enhanced the study of the functions of living organisms. Hence one reads today of studies in bacterial metabolism.

It has already been pointed out in THE JOURNAL[1] that a great advantage would be gained if the nutrient needs and the metabolic functions of bacteria were better known. Given the possibility of regulating the composition of culture mediums in accord with the precise needs of the organism, it would no longer be necessary to depend on such uncertain products as imported "peptone" of unknown composition, or crude decoctions of tissues of indefinable make-up for the successful cultivation and identification of bacteria. It is now understood, particularly through the studies of Rettger[2] and his pupils at Yale University, that purified unaltered proteins are resistant to bacterial attack, probably because their complex structure renders them unfit for immediate utilization. Not so, however, in the case of simpler nitrogenous compounds. Recent investigations[3] indicate that many species of bacteria are able to synthesize their own protoplasm from a very simple amino-acid like glycocoll, and thus utilize it as readily as more complex representatives, such as tryptophan, on which animal organisms are so dependent. A number of organisms have already been shown to be capable of passing through many successive cultures in an amino-acid medium without any diminution of luxuriance or rapidity of development. Most of them can even initiate development as readily on

1. The Resistance of Pure Proteins to Bacterial Decomposition, editorial, J. A. M. A. **65**: 257 (July 17) 1915; Newer Aspects of Bacterial Metabolism, ibid. **67**: 1448 (Nov. 11) 1916; The Nutrition of Bacteria, ibid. **71**: 466 (Aug. 10) 1918.

2. Sperry, J. A., and Rettger, L. F.: The Behavior of Bacteria Toward Purified Animal and Vegetable Proteins, J. Biol. Chem. **20**: 445, 1915. Rettger, L. F.; Berman, N., and Sturges, W. S.: Further Studies on Bacterial Nutrition: The Utilization of Proteid and Nonproteid Nitrogen, J. Bacteriol. **1**: 16, 1916.

3. For a review of the subject, compare Koser, S. A., and Rettger, L. F.: Studies in Bacterial Nutrition: The Utilization of Nitrogenous Compounds of Definite Chemical Composition, J. Infect. Dis. **24**: 301 (April) 1919.

diammonium phosphate as on the amino compounds. Combinations of the latter apparently possess little advantage over any one of the individual amino-acids.

Such researches, in a field in which scarcely more than the beginning has yet been made, greatly simplify the problem of the accurate study of bacterial nutrition. They by no means demonstrate, however, that the character of the nutrition, that is, the environment, of the micro-organism has no influence on the nature of the bacteria. Diehl[4] of the Department of Bacteriology at the University of Minnesota, has recently reported that on a medium containing no organic nitrogen, proteolytic enzymes are not formed by bacteria. The results with mediums containing amino-acids are varied. Diehl contends that the proteolytic enzymes are not preformed in the bacterial cell but are dependent on the nature of the substrate on which it grows. They are conceived to be specific for the amino-acids that go to make up proteins. If these speculations prove to be correct, they may help to explain the supposed occasional aberrant appearance of strains of bacteria—an irregularity which in the light of the new hypothesis might never appear if the chemical composition of the nutrient medium were always identical. Furthermore, as Diehl says, such differences in nutrient environment may help to account for many of the unverified "new strains" of bacteria, the differentiation of which is based on some minor phase of their action on culture mediums.

Current Comment

THE FUNCTIONS OF THE CELL NUCLEUS

Ever since the first description of the nucleus of a cell by Robert Brown in 1831, morphologists have been inquisitive regarding its purpose. That it is of fundamental importance, nobody doubts. Unquestionably the nucleus forms a part of the physical mechanism of inheritance. As to its rôle in the everyday performances of the living cell, it has been conjectured that the nucleus is concerned with the growth and synthesis of new protoplasm, or again that it is the center of the all-important oxidative processes of the organism which are now recognized to proceed in the cells rather than the circulating fluids of the body. Commenting on the evidence respecting these two hypotheses, Lynch[5] has remarked that the assumption that the organ which is farthest removed from the supply of oxygen is the organ of oxidation is not probable. In experiments conducted in the physiologic laboratory of the Johns Hopkins University, he has compared the behavior of cells (amebas) from which the nucleus has been removed with those containing this structure intact. Lynch observed that the enucleated structure may move, respire, digest, respond to stimuli, and exhibit any activity that is dependent solely on catabolic or destructive processes of protoplasm. The group of phenomena which it never shows are those of growth and of regeneration and division. As the phenomena of growth are essentially those of organic synthesis, he concludes that the dependence of growth on the nucleus implies the dependence of organic synthesis on the nucleus. Such speculations cannot fail to be engrossing when one stops to recall that our entire body is, after all, essentially a myriad of nucleated cells. For pathology it is highly important to understand the possibilities of function in the various parts of cells, so that the efforts to prevent abnormal cellular metamorphoses may be more intelligently directed.

4. Diehl, H. S.: The Specificity of Bacterial Proteolytic Enzymes and Their Formation, J. Infect. Dis. **24**: 347 (April) 1919.
5. Lynch, V.: The Function of the Nucleus of the Living Cell, Am. J. Physiol. **48**: 258, 1919.

CYANOSIS IN INFLUENZA

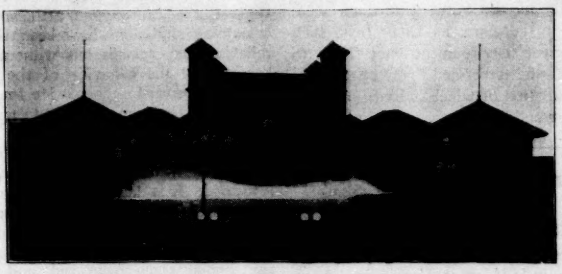
Cyanosis has been a constant and striking manifestation in the recent epidemic of influenza and bronchopneumonia. It occurs early in the disease and is apparently not associated with enlargement of the right heart, even in advanced cases. The emphysema of the lungs which develops as the lung involvement extends may be a causative factor in some instances but apparently not in the early stages. As the color of the skin suggests a lack of oxygen, artificial respiration, as well as oxygen inhalations, have been tried with the view of relieving the cyanosis but without success. Harrop[1] has studied the behavior of the blood of influenza infections toward oxygen. He found the oxygen content and oxygen unsaturation to give normal values in uncomplicated cases of influenza. The oxygen unsaturation of the blood is a measure of that part of the hemoglobin whose oxygen-combining power is not fully saturated. It is determined by obtaining the difference between the oxygen content of venous blood and the total oxygen-combining power of the hemoglobin. Harrop says also that "in none of the cases of bronchopneumonia which recovered, and not until terminal collapse in fatal cases, has the venous oxygen content or the amount of oxygen unsaturation been abnormal." The values seemed to be independent of the temperature, the respiration and the extent of lung involvement. These results would seem to explain the uselessness of oxygen inhalation in these cases. Attention has also been directed to methemoglobin since the presence of this substance in the blood is a well-known cause of cyanosis. It is known that methemoglobin contains the same amount of oxygen as hemoglobin, but that it is combined differently, forming a more stable compound which cannot be dissociated by a vacuum. On this account, methemoglobin is not able to act as an oxygen carrier. While the observations of Harrop indicate that the oxygen content and oxygen unsaturation give normal values in influenza, the question still remains whether or not the blood has undergone any chemical change which decreases the oxygen carrying power. In an endeavor to answer this question for pneumonia Butterfield and Peabody[2] demonstrated that methemoglobin is formed when the pneumococcus is grown in

1. Harrop, Jr., G. A.: On the Behavior of the Blood Towards Oxygen in Influenza Infections, Bull. Johns Hopkins Hosp. **30**: 10, 1919.
2. Butterfield, E. E., and Peabody, F. W.: The Action of the Pneumococcus in Blood, J. Exper. M. **18**: 587, 1913.

a mixture containing red blood cells. As to influenza, Synnott and Clark[3] report that a few spectroscopic examinations of the blood of influenza patients with intense cyanosis failed to show absorption bands of methemoglobin. It is therefore evident that the cause of the cyanosis of influenza is as yet undetermined. Perhaps further researches by blood chemistry methods may aid in revealing this obscure etiology and thus point the way to prevention or amelioration of the cyanosis—a condition which indicates a serious prognosis in any case of influenza.

LOUSE BITES AS A FACTOR IN HEALTH

Accurate studies prompted by the recent discoveries of the relation of the body louse to the transmission of disease have furnished some unexpected information in relation to pediculosis. The report of the trench fever commission of the Medical Research Committee of the American Red Cross[4] states in reference to the experimental subjects who so gallantly devoted themselves to the demonstration of the transmission of the disease by lice, that the particular feature of louse infestation which the men tolerated least recalls the saying: "Ce n'est pas la morsure, c'est la promenade." Far more of the subjects complained of the crawling as an irritating feature than of the biting. Some indications have long been available, however, to suggest that even the bite of lice unsuspected of any complicity with disease may not be the innocuous affair that it is currently regarded to be. Skin reactions have frequently been reported in connection with pediculosis. Visible signs of this sort, known as "louse rash," apparently do not have a uniform incidence, even among those persons who cannot be classed as immunes. It has been stated that sleep may be disturbed through louse bites. The evidence for a relationship between the subjective and objective signs of infestation has been regarded as insufficient; at any rate, the effects, if any, have generally been described as transitory. American investigators have begun to attach a greater significance to the immediate effects of louse bites. An investigation undertaken for the Medical Division of the National Research Council propounds the thesis that "men who are subject to louse bites have a lower mental and bodily vigor, and that, other things being equal, a louse-free army would be considerably better fighting men than the same army louse-infested."[5] The observations which were made by Hirschfelder and Moore at the University of Minnesota indicate that aside from the occasional macular erythematous eruption of the skin distributed over the body and therefore showing a reaction remote from the site of the bite there may be general lassitude, malaise and even febrile responses. These symptoms may occur even when all probability of concurrent infection is carefully excluded. What the nature of the substance is which provokes such skin eruption and mild fever remains to be ascertained. We have no desire to exaggerate the value of this new knowledge; neither is it desirable to minimize the import of symptoms that have probably been observed hundreds of times in the past without recognition of their possible connection with pediculosis.



Entrance to the Garden Pier. On Thursday in the afternoon the VICTORY MEETINGS and in the evening the reception to the President and Foreign Guests, the Ball and the Vaudeville Performance will be held on this pier.

Association News

THE ATLANTIC CITY SESSION

General Meetings

TUESDAY EVENING: The Opening General Meeting of the Scientific Assembly of the AMERICAN MEDICAL ASSOCIATION will be held in the Music Hall, Steel Pier, Tuesday evening at 8:30. In addition to the usual ceremonies, including the President's Address, the foreign guests of the Association will be introduced.

WEDNESDAY EVENING: A Special VICTORY MEETING will be held in the Music Hall, Steel Pier, on Wednesday evening, at which ten minute speeches will be made by representatives of the Army, Navy, Public Health Service, Military Surgeons, American Red Cross, American Public Health Association, Congress of American Physicians and Surgeons, American College of Surgeons, Association of American Medical Colleges, and the Medical Veterans of the World War.

THURSDAY (*Afternoon*): No section meetings will convene Thursday afternoon, but instead two general meetings arbitrarily divided into surgical and medical departments will be held. The surgical meeting will be presided over by the chairman of the section on surgery; and the medical meeting by the chairman of the section on practice of medicine. These meetings will be in the nature of VICTORY MEETINGS, and the principal addresses will be made by foreign guests. Adjoining halls have been secured; the surgical meeting will be held in the Garden Theater on the Garden Pier, and the medical meeting in the Ball Room of the Garden Pier.

THURSDAY (*Evening*): At 8 o'clock a public general meeting in the Garden Theater. The program for this meeting will be of more general interest than the afternoon meetings—the latter will appeal more directly to physicians. At 9:30 there will be a reception to the President and foreign guests in the Reception Hall of the Garden Pier.

3. Synnott, M. J., and Clark, E.: The Influenza Epidemic at Camp Dix, N. J., J. A. M. A. **71**: 1816 (Nov. 30) 1918.
4. Trench Fever, Report of Commission, Med. Research Committee, Am. Red Cross, Oxford Univ. Press, 1918, p. 157.
5. Hirschfelder, A. D., and Moore, William: Clinical Studies on the Effects of Louse Bites—Pediculus Corporis, Arch. Int. Med. **23**: 419 (April) 1919. Moore, William: An Interesting Reaction to Louse Bites, J. A. M. A. **71**: 1481 (Nov. 2) 1918.

Later there will be dancing in the Marine Terrace. A vaudeville performance in the Garden Theater will be given, commencing at 10 o'clock. These three buildings adjoin each other.

Foreign Delegates and Guests

Up to date the following physicians from foreign countries have been appointed as delegates, or have indicated their purpose to attend the coming annual session:

DR. ERNEST W. HEY GROVE, England
SIR ST. CLAIR THOMSON, England
MAJOR GENERAL SIR BERTRAND DAWSON, England
LT.-COL. SHIRLEY MURPHY, England
SIR WILLIAM ARBUTHNOT LANE, England
SIR ARTHUR NEWSHOLME, England
MRS. ELEANOR BARTON, England
H. W. GRAY, England
COLONEL W. T. LISTER, England
GENERAL MELIS, Belgium
COLONEL A. DEPAGE, Belgium
DR. P. NOLF, Belgium
PROFESSOR J. DUESBERG, Belgium
CAPT. VAN DER VELDE, Belgium
CAPT. RENÉ SAND, Belgium
DR. MAURICE HEITZ-BOYER, France
DR. C. MULLON, France
DR. PEDRO CHUTRO, Buenos Aires
DR. JUAN GUITERAS, Cuba
DR. EMILIO MARTINEZ, Cuba
DR. JULIO CARRERA, Cuba
DR. FRANCISCO M. FERNANDEZ, Cuba
DR. ALEJANDRO ACHA, Peru
DR. ISRAEL HOLMGREN, Sweden
DR. SVEN INGVAR, Sweden
DR. PETER F. HOLST, Norway
DR. JOHN CONSTAS, Greece
DR. G. GAVARIS, Greece
DR. CAROUSSOS, Greece
DR. ALEX. ALEXIOU, Greece
DR. ASAJIRO KAMIMURA, Japan
MR. SENICHI UCHINO, Japan
DR. RYUZO KODAMA, Japan

Ladies Entertainment

In addition to the usual attractions of Atlantic City of special interest to ladies, the Local Committee of Arrangements have provided for some special entertainments, among which may be mentioned:

TUESDAY (*Afternoon*): 4 to 6 p. m., a reception to the ladies at the Marlborough Blenheim.

WEDNESDAY (*Afternoon*): 2 to 6 p. m., the ladies of Atlantic City will tender a reception to the visiting ladies at the Atlantic City Yacht Club.

Other entertainments for ladies will be provided and will be announced in detail in the local program. Physicians may be assured that their wives, daughters and sisters will be taken care of while husbands, fathers and brothers are devoting their time to scientific work.

Hotels

Letters have been received from Fellows who have not succeeded in securing accommodations at the hotel of their choice. While not every one will be able to secure accommodations in the hotels on the Board Walk, it must not be forgotten that there are good hotels on the side streets leading from the Board Walk. (See pp. 1410-11 of THE JOURNAL for May 10.) In a word, no one need hesitate because he has not secured hotel accommodations. At the same time, we would urge that accommodations be secured beforehand when it is possible to do so.

Moving Picture Exhibit

In the Moving Picture Theater, Casino Hall, Second Floor Casino, Steel Pier, a continuous moving picture exhibit will be shown as a part of the Scientific Exhibit from 9 a. m. until 3 p. m. on Tuesday, Wednesday, Thursday and Friday of the session. This program is subject to change. The daily program will appear each day in the Bulletin.

PROGRAM

Tuesday Morning

9:00-10:30 "The Navy Put Them Over," a moving picture film showing the part played by the Navy in transporting and guarding our troops, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

10:30-11:00 Roentgen-Ray Plates, St. Luke's Hospital, New York.

11:00-12:00 "Fighting the Cootie," a moving picture film showing the work done by the Medical Department in protecting our Army from vermin and infection, furnished by the Medical Department, U. S. Army.

Tuesday Afternoon

12:00-1:30 "Fit to Win," an educational film on sex hygiene, furnished by the U. S. Public Health Service.

1:30-2:00 Microscopic Plates and Photographs of Experimental Research, with demonstration, Dr. Fenton B. Turck, New York.

2:00-2:30 Illustrated Lecture, "The Nostrum and the Food and Drugs Act," Dr. A. J. Cramp, Propaganda Department, American Medical Association.

2:30-3:00 "Training a Medical Officer," a moving picture film showing the work of the medical officers' training camps and the process of making an Army surgeon out of a civilian doctor, furnished by the Medical Department, U. S. Army.

Wednesday Morning

9:00-10:30 "Fit to Win," an educational film on sex hygiene, furnished by the U. S. Public Health Service.

10:30-11:00 American Social Hygiene Association, Venereal Disease Prevention.

11:00-11:30 Illustrated Lecture, "The Nostrum and the Testimonial," Dr. A. J. Cramp, Propaganda Department, American Medical Association.

11:30-12:00 "The Regimental Detachment," a moving picture film showing the work of the medical officer attached to a regiment, furnished by the Medical Department, U. S. Army.

Wednesday Afternoon

12:00-12:30 "Navy Aviation," a moving picture film showing the work of the naval aviators, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

12:30-1:00 "Features of Navy Work," a moving picture film showing special features of naval activities, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

1:00-1:30 "A Naval Hospital," a moving picture film showing the character and work of a naval hospital, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

1:30-2:00 Moving Pictures Showing Technic of Wassermann Reaction, Battle Creek Sanitarium, Dr. C. E. Roderick, Battle Creek, Mich.

2:00-2:30 "The Field Hospital Unit," a moving picture film showing the work of the field hospital, furnished by the Medical Department, U. S. Army.

2:30-3:00 "The Ambulance Company," a moving picture film showing the organization and work of the ambulance company, furnished by the Medical Department, U. S. Army.

Thursday Morning

9:00-10:00 "The Way Out," a moving picture film showing reconstruction of cripples, furnished by the Medical Department, U. S. Army.

10:00-10:30 Moving Picture film showing Correction of Infantile Paralytic Deformity and Improvement of Gait Following Operation, Dr. Michael Hoke, Atlanta, Ga.

10:30-12:00 "The U. S. Marine Corps," a moving picture film showing the celebrated "Devil Dogs" in action, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

Thursday Afternoon

12:00-12:30 Illustrated Lecture, "Some Miscellaneous Nostrums," Dr. A. J. Cramp, Propaganda Department, American Medical Association.

12:30-2:00 "Open Your Eyes," a new moving picture film on the social evil and venereal diseases, furnished by the U. S. Public Health Service.

2:00-2:30 Lantern Slides on Gastro-Intestinal Diagnosis, Dr. R. W. Mills, St. Louis.

2:30-3:00 "Treatment of War Wounds," a moving picture film, showing methods of treating wounds in military dressing stations and hospitals, furnished by the Medical Department, U. S. Army.

Friday Morning

9:00-10:30 "Open Your Eyes," a new moving picture film on the social evil and venereal diseases, furnished by the U. S. Public Health Service.

10:30-11:00 Lantern Slides of Microphotographs, showing the Pathological Anatomy and Bacteriology of Influenza, Dr. Balduin Lucke, Philadelphia.

11:00-11:30 "The House Fly" and "Mosquitoes and their Extermination," educational films on the relation of flies and mosquitoes to disease, furnished by the U. S. Public Health Service.

11:30-12:00 "Fit to Fly," a moving picture film showing the methods followed in examining and selecting men for the Aviation Corps, furnished by the Medical Department, U. S. Army.

Friday Afternoon

12:00-1:00 "Fit to Fly," continued.

1:00 1:30 Illustrated Lecture, "Alcohol in 'Patent Medicines,'" Dr. A. J. Cramp, Propaganda Department, American Medical Association.

1:30-3:00 "Life and Work in the Fleet," a moving picture film showing many interesting scenes from naval life, furnished by the Bureau of Medicine and Surgery, U. S. Navy.

Admission free to all persons wearing the Association Convention badge, delegates, members or guests.

Medical Mobilization and the War

Deaths in the Army

The *United States Bulletin* of May 19, published the following statement regarding the number of deaths in the United States Army, from the beginning of the war to the various dates recorded:

	From Disease	Battle	Other In. jury	Total
In United States, to April 18, 1919.....	33,537	.....	822	35,359
In France, to April 23, 1919.....	22,996	48,068	4,536	75,600
In Archangel, Russia, to April 21, 1919.	67	100	4	171
In Siberia, to April 18, 1919.....	39	.....	10	49

Wounded Slightly

In the issue of the *U. S. Bulletin* of May 8, it was reported that the following medical officers had been wounded slightly: Malcolm Newlon, Lieut., M. C., U. S. Army, Lincoln, Kan., and Lacy W. Corbett, Lieut., M. C., U. S. Army, Bishopville, S. C.

Influenza on Transport

On board the *Martha Washington*, which sailed from Pauillac, France, May 7, and arrived in Newport News, Va., May 19, with 3,013 soldiers, fifty-seven cases of influenza developed and the entire passenger list was placed in isolation for five days.

Medals of Honor Awarded

Frederick P. Reynolds, Col., M. C., U. S. Army, and Royal Reynolds, Lieut.-Col., M. C., U. S. Army, have been awarded the French Medaille d'Honneur das Epidemies at the American Red Cross Hospital No. 112, Auteuil, France.

Distinguished Service Order Given

George P. O'Malley, Capt., M. C., U. S. Army, Cleveland, was recently awarded the Distinguished Service Order by the British government.

Awards of Distinguished Service Cross

By direction of the President, the distinguished service cross was awarded by the commanding general, American Expeditionary Forces, for extraordinary heroism in action in Europe, to the following named officers and enlisted men of the American Expeditionary Forces:

THOMAS B. GOLD, first lieutenant, Medical Corps, 119th Infantry, Lawndale, S. C. For extraordinary heroism in action near Busigny, France, Oct. 9, 1918, and Mazinghien, France, Oct. 18-19, 1918. During the attack of October 9, he established his first aid post in a roadside shrine up with the front line, where he rendered valuable service to the wounded. On another occasion he established alone a post close to the front line, where he again gave treatment until the heavy fire of the enemy forced him to withdraw. During the advance of October 18-19, he established another front line post under the enemy fire and thus saved the lives of many of the troops.

GEORGE W. CRILE, Lieut.-Col., M. C., U. S. Army, commanding the Lakeside Hospital Unit, Cleveland, and later consulting specialist for the American Expeditionary Forces. The citation states: "By his skilled researches and discoveries he saved the lives of many wounded soldiers. His tireless efforts to devise new methods of treatment to prevent infection and mental shock revolutionized army surgery and met with great success."

American Red Cross Mission Arrives in Siberia

The American Red Cross Siberian Commission arrived in Vladivostok on April 28. Among the American members are Drs. J. Rudis-Jicinsky, V. Anyz, G. Cepelka, Chicago, and G. W. Davis, Kansas City. It is under the leadership of Dr. Teusler. The commission consists of four physicians, fourteen nurses and a pharmacist. Drs. Rudis-Jicinsky and Anyz have been detached and sent to Omsk to fight typhus fever and to aid the Czecho-Slovaks along the Siberian railway.

French Decorate Naval Officers

For bravery in action with the United States forces in the Champaign offensive near Rheims, in October, 1918, Lieut.-Com. Joel T. Boone, M. C., U. S. Navy, was decorated, April 28, by the acting secretary of the Navy, with the Croix de Guerre with Palm. The decoration followed congratulatory expression of appreciation by the acting secretary and Surg.-Gen. William C. Braisted, U. S. Navy. Commander Boone's remarkable war record is shown by the following summary of his citations and awards: cited for American Distinguished Service Cross, in June in the Belleau Woods action; in September at Thiaucourt in the St. Mihiel offensive, and October in the Champagne offensive. He was cited for French decoration in July in Soissons offensive, and in October in the Champagne offensive. He was cited for Medal of Honor in December in the Soissons action and on account of the general revise of his acts. He was cited in Divisional Orders No. 44, Second Division, in July for acts in Belleau Woods. The citation for which the French decoration was awarded Commander Boone was as follows: "Between Oct. 2 and 10, 1918, this officer was constantly circulating among the attacking companies, directing with success and the greatest coolness the evacuation of the wounded from the battlefield under heavy artillery and machine gun fire. He showed at all times an utter disregard of personal safety, his fearless behavior being a splendid example to those about him. This work was maintained over a period of nine days until the last relief had taken place."

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel; Col., colonel, and B. G., brigadier-general.

ALABAMA

Bessemer—Harris, C. A. (C.)
Birmingham—Murphy, G. E. (C.)
Grand Bay—Fort, M. A. (L.)
Opelika—Moore, G. H. (C.)
Porter—Denman, H. J. (C.)
Seale—Prather, J. (C.)
Tuscaloosa—Scott, H. B. (C.)

ARIZONA

Globe—Horst, W. W. (L.)
Phoenix—Bakes, E. C. (C.)
Seligman—Cartmell, F. H. (L.)
White River—Parlett, R. V. (L.)

ARKANSAS

El Paso—Bruce, W. H. (L. C.)
Little Rock—Mobley, A. L. (C.)
Osceola—Harwell, W. R. (L.)
Proctor—Wilson, T. (C.)
Richwoods—White, W. H. (M.)

CALIFORNIA

Berkeley—Allen, W. B. (C.)
Callnon, J. W. (C.)
Thomson, H. S. (M.)
Eagle Rock—Dirks, C. B. (C.)
Ferndale—Bruner, A. M. (C.)
Fresno—Sweet, C. D. (L.)
Fullerton—Wickett, W. H. (C.)
Lemon Cove—Montgomery, R. B. (C.)
Los Angeles—Alter, S. M. (C.)
Fisher, J. T. (C.)
Germann, A. C. (L.)
Hagan, R. (C.)
Loomis, M. L. (C.)
Schroeter, V. (C.)
Waller, G. P., Jr. (M.)
Palo Alto—Green, H. R. (C.)
San Francisco—Eames, E. (L.)
Fisher, A. L. (C.)
Sampson, W. A. (M.)
Schlageter, H. J. (L. C.)
Summersgill, H. T. (L. C.)
Tolman, G. P. (C.)
Young, J. A. (C.)
Santa Ana—Brothers, H. N. (C.)
Stockton—Friedberger, W. (M.)

COLORADO

Denver—Johnson, R. W. (L.)
Wood, N. A. (C.)
Lamar—Knuckey, C. T. (C.)
Pueblo—Block, L. (C.)
Halley, W. H. (L.)
Somerset—Earle, J. R. (C.)
Victor—Elliott, C. E. (C.)

CONNECTICUT

Bridgeport—Calvin, C. V. (L.)
Bristol—Richardson, R. A. (L.)
Clinton—Wellman, G. O. (L.)
East Hartford—Truex, E. H. (C.)
Hartford—Bancroft, H. A. (L.)
Sweet, J. H. T., Jr. (L.)
New Britain—Dalton, G. H. (C.)
Unionville—Flynn, W. H. (L.)
Waterbury—Healey, T. F. (C.)
Spicer E. (L.)
Willimantic—ONeil O. (C.)

DELAWARE

Seaford—Manning H. M. (L.)

DISTRICT OF COLUMBIA

Washington—Adams R. D. (M.)
Bell, W. J. (L. C.)
Caylor, C. C. (C.)
Moore, T. V. (M.)
ONeil, D. G. (L.)
Van Rensselaer, J. (C.)
Weaver, C. R. (L.)
Wilmer, W. H. (Col.)

FLORIDA

Dania—Parrish, T. E. (L.)
Jacksonville — Manning, W. S. (C.)
Palmetto—Vaughan, B. E. (C.)

GEORGIA

Ashburn—Harris, H. W. (C.)
Atlanta—Battey, H. L. (L.)
Boland, F. K. (L. C.)
Daly, L. P. (C.)
Pruitt, M. C. (M.)
Lawrenceville—Kelley, D. C. (L.)
Macon—McAfee, L. C. (C.)
Newman—Peniston, J. B. (C.)
Plainy—Wise, S. P. (L.)
Sasser—Akridge, H. L. (C.)
Savannah—Crawford, W. B. (M.)
Stillmore—Graham, R. E. (C.)
Valdosta—Dunaway, C. E. (C.)
Whigham—Brawner, L. E. (L.)

IDAHO

Kamiah—Bryan, C. H. (C.)
Lewiston—Braddock, E. G. (C.)

ILLINOIS

Barrington—Weichelt, C. V. A. (L.)
Batchtown—Fiedler, F. W. (L.)
Beardstown—Kunz, F. O. (L.)
Cairo—Weber, C. L. (M.)
Champaign—McKinney, C. D. (L.)
Chicago—Albers, E. H. (L.)
Anderson, J. V. (L.)
Benkendorf, B. (L.)
Blatchford, F. W. (M.)
Bloomfield, J. H. (C.)
Brooks, J. E. (L.)
Buckley, J. (L.)
Chapman, F. A. (M.)
Christiansen, H. (L.)
Desser, A. L. (L.)
Friedberg, S. A. (M.)
Greensfelder, L. A. (M.)
Gross, W. A. (L.)
Hall, M. W. (C.)
Hirsch, E. F. (C.)
Horner, C. P. (C.)
Horner, D. A. (M.)
Johannes, P. C. W. (C.)
Kahn, J. V. (L.)
Krost, G. N. (C.)
McClave, A. W. (C.)
Miller, J. W. (L.)
OMalley, J. G. (C.)
Perrill, I. (M.)
Rosenbaum, L. W. (C.)

Chicago—Ryan, A. F. (L.)
Schmidt, E. R. (C.)
Schroeder, G. H. (C.)
Shacoff, H. (L.)
Small, A. A. (L. C.)
Stern, L. H. (L.)
Stevens, C. A. (L. C.)
Suker, G. F. (M.)
Sullivan, W. J. (C.)
Unger, L. (C.)
Washburn, A. M. (C.)
Windell, U. G. (C.)
Chicago Heights—Cusick, G. W. (L.)
Chrisman—Kerrick C. L. (L.)
Collinsville—Burroughs, L. G. (L.)
Decatur—Redmon, J. (L.)
Thompson, J. C. (C.)
Des Plaines—Purves, A. M. (C.)
East St. Louis—Boyd, T. V. (M.)
Ellsworth—Johnston, J. K. (L.)
Granite City—Purnell, E. A. (C.)
Nebo—Pollock, J. R. (L.)
New Boston—Childs, C. F. (C.)
Newman—Valentine, J. A. (C.)
Oak Park—Bivins, B. W. (C.)
Peru—Provost, B. W. (L.)
Rockford—Porter, J. R. (C.)
Scotland—Jennings, J. F. (C.)
Watseka—Buckner, W. F. (L.)
West Frankfort—Webb, B. H. (L.)
Zeigler—Gates, L. V. (L.)

INDIANA

Attica—Burlington, J. R. (C.)
Elkhart—Elliott, L. A. (C.)
Evansville—Cody, B. L. I. (L.)
Fort Wayne—Beall, C. G. (C.)
Hartford City—Buckles, H. L. (L.)
Holland—Baker, H. M. (M.)
Huntington—Clokey, M. C. (C.)
Indianapolis—Hurt, P. T. (C.)
Kime, E. E. (L.)
La Bonte, N. (L.)
Walker, F. C. (L.)
Lexington—Matthews, C. B. (C.)
Logansport—Shultz, H. M. (C.)
Millersburg—Simmons, L. H. (L.)
Monroeville—Steinman, H. E. (L.)
Mulberry—Troxell, E. C. (C.)
Rensselaer—Johnson, C. E. (C.)
Rockville—Bradenberger, E. G. (L.)
Star City—Johnston, E. E. (C.)
Union City—Reid, R. W. (L.)
Voisinet, R. A. (M.)
Vallonia—Richards, P. (L.)
Valparaiso—Gowland, H. E. (L.)

IOWA

Algona—Hartman, E. C. (C.)
Charles City—Griffin, W. L. (C.)
Clear Lake—Phillips, A. B. (C.)
Corydon—Walker, B. S. (C.)
Council Bluffs—Cobb, H. A. (C.)
Davenport—Lamb, F. H. (C.)
Des Moines—Gilpin, G. S. (L.)
Will, F. A. (C.)
Yates, G. S. (L.)
Dubuque—Fritz, L. H. (C.)
McGuire, C. A. (M.)
Fairfield—James, L. D. (C.)
Independence—Tidball, C. W. (L.)
Iowa City—Beye, H. L. (C.)
Mason City—Fitzpatrick, M. J. (L.)
Marston, C. L. (M.)
New London—Mehler, F. R. (L.)
Nora Springs—Banton, O. H. (C.)
Red Oak—Seabloom, J. L. (C.)
Sioux City—Schott, H. J. (C.)

KANSAS

Augusta—Pattison, J. F. (C.)
Bronson—Lambeth, G. S. (C.)
Columbus—Baxter, L. W. (C.)
Horton—Reynolds, L. (C.)
Kansas City—May, J. W. (C.)
Manhattan—McCullough, W. A. (C.)
Marysville—Close, J. B. (L.)
Thayer—Sherman, J. N. (M.)
Topeka—Brown, E. G. (C.)
Millard, S. T. (M.)
Wichita—Carter, W. H. (C.)
Frost, E. J. (L.)

KENTUCKY

Ashland—Layne, P. C. (C.)
Bratton—Stevenson, J. M. (C.)
Corinth—Foreman, W. P. (C.)
Glasgow—Howard, C. C. (L.)
Hitesville—Griggs, G. D. (C.)
Hopkinsville—Thomas, F. P. (C.)
La Grange—Blaydes, H. B. (C.)
Lancaster—Edwards, J. E. (L.)
Lexington—Juett, F. L. (C.)
Louisville—Abell, I. (L. C.)
Abraham, D. E. (C.)
Frank, L. W. (C.)
Neblett, L. W. (L.)
Maysville—McClanahan, C. W. (M.)
Mortons Gap—Davis, A. W. (C.)
New Liberty—Purdy, G. (C.)

LOUISIANA

Baton Rouge—McKowen, J. (C.)
Clarks—Sherman, D. O. (C.)
Jena—Coleman, J. A. (C.)
Monroe—Hirsch, D. I. (C.)
New Orleans—Danna, J. A. (L. C.)
Fuchs, V. H. (L.)
Gage, I. M. (L.)
Gondolf, H. J. (L.)
Hebert, L. A. (L.)
Hountha, J. M. (L.)
Kearney, H. L. (C.)
McGowan, R. P. (L.)
Moss, E. (L. C.)
Patton, W. T. (C.)
Signorelli, J. (L.)
Oscar—Major, E. L. (C.)
Welsh—Martin, C. A. (M.)

MAINE

Bangor—Bliss, R. V. (C.)
Farmington—Pratt, G. L. (C.)
Portland—Davis, P. W. (C.)
Hayward, A. (C.)
Josselyn, E. B. (C.)
Shanahan, W. H. (C.)
Tibbetts, G. A. (C.)
Vansmee, T. O. (L. C.)
Saco—Willard, L. E. (C.)

MARYLAND

Annapolis—Hopkins, W. H. (C).
Baltimore—Davis, D. M. (M.)
Duffy, W. J. (L.)
Hall, E. G. (L.)
Harrison, A. C. (L. C.)
Holmes, L. P. (L.)
Marino, F. C. (L.)
McConachie, A. D. (M.)
Peters, D. P. (L. C.)
Rankin, F. (M.)
Stein, H. M. (L.)
Streett, D. C. (C.)
Walker, A. C. (C.)
Warring, F. C. (L.)
Weed, J. H. (C.)
Wolford, R. A. (L.)
Zadek, I. (L.)
Corbett—Payne, T. R. (C.)
Cumberland—Cavanaugh, L. M. (C.)
Hagerstown—Hoffmeiser, F. N. (C.)

MASSACHUSETTS

Attleboro—O'Dea, P. J. (C.)
Ayer—Priest, H. B. (C.)
Boston—Ahern, J. F. (L.)
Bigelow, F. H. (C.)
Craigin, G. A. (L. C.)
English, M. J. (C.)
Hollings, C. B. (M.)
Houston, D. W., Jr. (L.)
Lyman, J. (M.)
Piper, F. (M.)
Reese, J. A. (M.)
Solomon, H. C. (L.)
Sussler, D. (L.)
Tucker, C. C. (C.)
Williams, F. P. (L. C.)
Brockton—Butler, D. M. (L.)
Dacey, C. J. (C.)
Cambridge—Hapgood, L. S. (C.)
Canton—Luce, H. L. (C.)
Holyoke—Ryan, W. P. (M.)
Longmeadow—Martin, H. C. (M.)
Malden—Gallagher, N. A. (C.)
Newton—Schofield, O. L. (C.)
Revere—Rosen, E. (L.)
Wilkins, G. A. (L.)
Stoughton—Ewing, E. H. (L.)
Faxon, N. W. (M.)
Taunton—McGraw, A. J. (M.)
Waltham—Behrman, R. A. (C.)
Williamstown—Howard, F. H. (M.)

MICHIGAN

Battle Creek—Putnam, W. N. (C.)
Big Rapids—Dodge, W. T. (M.)
Calumet—McKinnon, J. D. (C.)
Clare—Sanford, B. J. (C.)
Clinton—Thomson, C. S. (L.)
Detroit—Camelon, T. P. (M.)
Carpenter, G. B. (L.)
Fay, G. E. (M.)
Gregory, H. L. (C.)
Hawkins, J. L. (L.)
MacMullen, F. B. (L.)
Martin, R. M. (C.)
Mullen, T. F. (M.)
Seeley, W. F. (M.)
Stephenson, F. F. (C.)
Van Becelaere, L. H. (L.)
Flint—Miner, F. B. (C.)
Grand Haven—Addison, C. J. (L.)
Grand Rapids—Beel, H. J. (L.)
Corbus, B. R. (M.)
Hyland, W. A. (L.)
Wells, S. M., M. D. (C.)
Ishpeming—Braden, A. V. (C.)
Lansing—Pinkham, R. A. (L.)
Lowell—Button, A. C. (C.)
Millington—Garvin, W. C. (C.)
Negaunee—Howle, E. C. (M.)
Pequaming—Marshall, F. F. (C.)
Zeeland—De Pree, J. C. (C.)

MINNESOTA

Breckenridge—Rimer, E. W. (C.)
Brooten—Glyer, R. T. (M.)
Climax—Arneson, T. (C.)
Cloquet—Raiter, F. W. S. (C.)
Minneapolis—Bell, J. W. (C.)
Brown, P. F. (M.)
Cabot, V. S. (L.)
Nelson, O. E. (L.)
Reed, C. A. (M.)
Red Lake—Favour, R., Jr. (C.)
Red Wing—Smith, M. W. (C.)
Redwood Falls—Flinn, T. E. (M.)
Rochester—Lepper, L. E. (L.)
Spring Valley—Sather, E. R. (C.)
St. Cloud—Rice, G. D. (M.)
St. Paul—Barron, L. (M.)
Freeman, C. D. (C.)
Nelson, L. A. (C.)

MISSISSIPPI

Aberdeen—Crosby, L. A. (C.)
Algoma—Abernethy, E. G. (L.)
Dundee—Johnson, H. G. (L.)
Jackson—Wall, J. P. (M.)
Meridian—Denson, E. G. (C.)
Pass Christian — Strong, R. A. (M.)
Shannon—Spencer, S. C. (M.)
Sidou—Yates, R. B. (C.)
Winona—Holmes, T. W. (C.)

MISSOURI

Grunfield—Rawhauser, J. L. (L.)
Kansas City—Denslow, F. M. (C.)
Goldman, M. (L.)
Hopkins, C. B. (C.)
Milne, L. S. (L. C.)
Snider, S. H. (L.)
Lemonas—Cobb, B. E. (C.)
Moberly—Ragan, S. T. (C.)
Mountain Grove—Wittwer, E. C. (C.)
North Kansas City—Dagg, G. R. (C.)
Rocheport—Mabry, P. S. (L.)
Springfield—Lowe, H. A. (C.)
St. Louis—Bosserman, D. C. (L.)
Cochran, H. (C.)
Cooley, E. L. (C.)
Dearing, B. F. (L.)
Fischel, W. (L. C.)
McFadden, J. P. (C.)
Misaimore, L. E. (L.)
Moore, H. M. (M.)
Pickrell, C. D. (C.)
Rotter, J. C. (L.)
Smith, W. I. (C.)
Tormey, A. R. (L.)
Turek, A. E. (L.)
Veeder, B. S. (L. C.)
Vinyard, R. (L.)
Welch, H. W. (L.)

MONTANA

Billings—Richards, W. G. (C.)
Brady—Maguire, L. M. (C.)
Butte—Schwartz, H. (L.)
Drummond—Heetdirks, B. J. (L.)
Great Falls—Reynolds, J. B. (C.)
Kalispell—Griffis, L. G. (C.)
Lewiston—Hedges, R. S. (C.)
Medicine Lake—Morrow, T. M. (L.)
Sidney—Parsons, H. H. (C.)
Winifred—Sears, J. L. (L.)

NEBRASKA

Hastings—Foote, E. C. (M.)
Indianola—DeMay, G. A. (C.)
Kimball—Myler, W. K. (L.)
Lincoln—Garfield, W. T. (C.)
Snipes, J. F. (C.)
Long Pine—Tucker, J. C. (M.)
Mullen—Atkinson, T. E. (L.)
Omaha—Adcock, L. C. (C.)
Jenkins, H. J. (C.)
Linquist, A. L. (C.)
Weeping Water—Thomas, J. W. (C.)

NEVADA

Tuscarora—Secor, C. E. (L.)

NEW HAMPSHIRE

Milford—Talbot, B. L. (M.)

NEW JERSEY

Atlantic City—Weiner, S. E. (C.)
Berlin—Ewing, L. H. (C.)
Burlington—Rink, W. E. (L.)
Camden—Davis, A. B. (M.)
Florence—Peace, E. B. (C.)
Highland Park—Nafey, H. W. (C.)
Jersey City—Feury, N. F. (M.)
Shera, G. W. (C.)
Stout, J. P. (C.)
Metuchen—Ellis, A. L. (C.)
Mont Clair—Harrison, W. N. (C.)
Morristown—Mills, C. (C.)
Newark—Furst, N. J. (L.)
Gordon, A. J. (C.)
Park Ridge—Garrett, H. S. (L.)
Passaic—Clock, C. V. (L.)
Patterson—Levine, S. C. (L.)
Pleasantville—Harley, H. L. (C.)
Trenton—Bellis, H. D. (M.)
Smith, W. H. (L.)

NEW MEXICO

Albuquerque—Brown, H. R. (L. C.)
Deming—Swope, S. D. (M.)

NEW YORK

Albany—Alderson, S. E. (L.)
Brennock, T. M. (L.)
Dickinson, A. M. (C.)
Graham, C. F. (C.)
Keeling, J. H. (C.)
Peck, H. A. (C.)
Williams, L. R. (L. C.)
Brooklyn—Agan, W. B. (C.)
Bernstein, P. F. (L.)
Crassini, J. (L.)
Eberle, A. (L.)
Everlof, J. L. (L.)
Field, R. M. (L.)
Flynn, J. H. (C.)
Gilmartin, A. (C.)
Kornfeld, G. (L.)
Reque, P. A. (C.)
Trumpp, T. F. (L.)
Vaughan, F. M. (M.)
Buffalo—Francis, L. M. (C.)
Lyon, I. P. (M.)
Strozzi, F. E. (L.)
Cold Spring—Hall, R. M. (L.)
Cooperstown—Harwell, F. J. (L.)
Downsville—Wilson, F. D. (M.)
East Schodack—Ackroyd, W. A. (L.)
Ellenville—Potter, R. T. (L.)
Elmhurst—Morrissey, J. L. (C.)
Endicott—McNett, J. S. (C.)
Gowanda—Schenkelberger, F. P. (L.)
Hoosick Falls—Cahill, F. J. (C.)
Ithaca—Durand, A. C. (M.)
Kings Park—Benson, H. A. (C.)
Kingston—Loughran, R. L. (M.)
Massena—McCloon, D. F. (C.)
Medina—Bugbee, A. S. (C.)
Newark—Newcomb, C. A. (C.)
New Lebanon—Brooks, N. P. (M.)
New Rochelle—Deklyn, C. C. (M.)
Peck, C. (M.)
Titus, H. W. (M.)
New York—Bartlett, F. H. (M.)
Bishop, W. H. (L. C.)
Brancato, F. (L.)
Briggs, R. T. (C.)
Burdick, C. G. (M.)
Familton, R. S. (L.)
Farley, D. L. (C.)
Furlong, R. S. T. (L.)
Gillette, C. (M.)
Hofmann, J. W. (C.)
Horan, J. C. (C.)
Hume, W. F. (L.)
Jones, C. C.
Keller, F. C. (C.)
Klein, A. W. (C.)
Kutil, H. R. (C.)
Law, F. M. (M.)
Macklin, W. F. (M.)
Mohr, E. C. (L.)
Nammack, C. H. (L.)
Nicolson, W. P., Jr. (C.)
O'Brien, W. H. (L.)
Pardee, I. H. (L.)
Perkins, C. E. (C.)
Poll, D. (C.)
Robertson, J. H. (L.)
Siris, I. E. (C.)
Smith, E. M. (C.)
Smith, J., Jr. (C.)
Stimson, P. M. (C.)
Swift, H. F. (Col.)
Nichols—Osborne, L. J. (C.)
Patchogue—Terry, A. H., Jr. (C.)
Plattsburg—Hyde, L. W. (L.)
Richfield Springs—Crain, R. B. (C.)
Rochester—Gage, G. H. (M.)
Hincher, C. L. (M.)
Kaiser, A. D. (C.)
Reed, A. P. (M.)
Sutter, C. C. (C.)

Russell—Teepell, F. A. (C.)
Sag Harbor—McCort, J. H. (C.)
Schenectady—Smith, D. G. (C.)
Syracuse—Babcock, A. D. (L. C.)
Waterloo—Carleton, W. W. (C.)
Yonkers—Macbean, W. B. (C.)
Muth, J. C. (C.)

NORTH CAROLINA

Andrews—Orr, C. V. (L.)
Brevard—Summey, T. J. (C.)
Charlotte—Caldwell, J. H. (L.)
Durham—Reade, E. G. (L.)
Goldsboro—Carter, P. C. (L.)
Henderson—Fenner, E. P. (C.)
Hobgood—Leggett, V. W. (C.)
Macclesfield—Mitchell, G. W. (C.)
Whitakers—Cutchin, J. H. (C.)
Wilmington—Codington, H. A. (C.)
Winston-Salem—Hanes, F. M. (L. C.)

NORTH DAKOTA

Grafton—Countryman, J. E. (M.)
Lisbon—Wands, E. E. (C.)
Sherwood—Greaves, J. P. (C.)

OHIO

Amelia—Hicks, W. M. (C.)
Archbold—Murbach, C. F. (C.)
Bellefontaine—Carey, W. H. (C.)
Bowling Green—Powell, H. J. (L.)
Rae, J. W. (C.)
Bryan—Long, J. W. (C.)
Carey—Van Buren, R. C. (C.)
Cincinnati—Hardinger, R. W (C.)
Maertz, C. (M.)
McCarthy, M. F. (L.)
Spelman, J. D. (L. C.)
Cleveland—Boutwell, J. H. (C.)
Chalat, J. H. (L. A. C.)
Dwyer, W. E. (L.)
Grossman, R. G. (C.)
Hosmer, M. F. (C.)
Jackson, T. S. (C.)
Thoman, C. B. (C.)
Wagner, H. F. (C.)
Columbus—Albanese, N. A. (C.)
McClelland, C. E. (M.)
Means, J. W. (M.)
Smith, E. E. (M.)
Wells, C. H. (L.)
Coshocton—Smailes, J. G. (L.)
Dayton—Giffen, G. G. (C.)
Findlay—Van Horn, A. M. (C.)
Galion—Allen, M. L. (C.)
Henderson—Metcalfe, A. W. (C.)
Mansfield—Findley, S. E. (L.)
Massillon—Zintsmaster, L. B. (C.)
Mount Vernon—Dowds, E. D. (C.)
National Military Home—Grover, C. P. (M.)
Newark—DeCrow, R. W. (M.)
Oberlin—McCord, J. B. (C.)
Piedmont—Curfiss, W. W. H. (C.)
Piqua—Haley, M. R. (C.)
Rayland—Cadwell, J. R. (C.)
Sidney—Conner, J. F. (C.)
Toledo—King, C. R. (L.)
Rieg, P. W. (C.)
Wilson, D. (L. C.)
Van Wert—Sampsell, J. B. (L.)
Waterville—Babcock, H. L. (C.)
West Salem—Cohen, M. B. (L.)
Youngstown—Bierhamp, F. J. (M.)
Phillips, D. B. (C.)

OKLAHOMA

Anadarko—Williams, R. W. (L.)
Cushing—Morris, I. C. (L.)
Hobart—Bonham, J. M. (C.)
McAlester—Wilbur, L. S. (M.)
Mounds—Driver, C. M. (L.)
Muskogee—Sanford, J. H. (C.)
Oklahoma City—Young, A. D. (C.)
Shawnee—Loy, C. F. (L.)
Stratford—Webster, M. M. (C.)
Tulsa—Cook, W. (C.)
Astoria—Waffle, E. B. (L.)
Cottage Grove—Frost, C. E. (C.)
Junction City—Howard, M. G. (C.)
Portland—Besson, L. S. (L.)
Grossman, A. A. (C.)
Van Cleve, A. C. (L. C.)
Salem—Ross, D. R. (L.)

PENNSYLVANIA

Allentown—Jordan, H. D. (C.)
Alenwood—Davis, N. R. (C.)
Altoona—Snyder, C. E. (L.)
Beaver Falls—Swick, J. H. (C.)
Bradford—White, B. F. Jr. (C.)
Bridgeport—Ungerleider, H. E. (L.)
Butler—Robb, C. A. (L.)
Castle Shannon—Brown, L. V. (C.)
Chester—Rowland, C. A. (C.)
Conshohocken—Ruth, A. L. (C.)
Corry—Little, T. A. (C.)
Coudersport—Hatch, P. L. (L.)
Dunmore—Curtin, E. A. (C.)
Edinboro—Ghering, H. A. (L.)
Edwardsville—Morgan, D. R. (C.)
Erie—Croop, J. E. (C.)
McCarthy, F. P. (L.)
Gettysburg—Bew, R. (M.)
Grove City—Wilson, H. S. (C.)
Hecktown—Beck, S. G. (L.)
Jeannette—Sankey, L. M. (C.)
Johnstown—Hays, C. E. (C.)
Miltenberger, W. (C.)
Lancaster—Herr, W. H. (M.)
Latrobe—Blackburn, A. B. (C.)
Morison, G. P. (L.)
Lewisburg—Barton, A. E. (C.)
Middletown—Evans, W. P. (C.)
Millheim—Hardenbergh, J. A. (L.)
Mount Union—Morrow, J. R. (L.)
Narbeth—Faries, C. T. (C.)
Philadelphia—Borzell, F. F. (C.)
Cohen, L. S. (C.)
Collins, E. W. (C.)
Dambrauckas, A. P. (C.)
Donnelly, D. J. (L. C.)
Eliason, E. L. (L. C.)
Goldberg, M. (L.)
Hebert, A. W. (C.)
Hinton, D. (C.)
Hume, J. E. (M.)
Hutchinson, P. P. (Col.)
Jones, H. W. (L.)
Kramer, D. W. (C.)
MacFarlan, D. (C.)
Meyer, J. G. (L.)
Miller, J. G. (C.)
Moore, E. A. (L.)
Paul, J. D. (C.)
Richards, J. F. (L.)
Stoner, W. H. (C.)
Sweet, J. E. (L. C.)
Whelan, W. F. (C.)
Pittsburgh—Adams, S. H. (C.)
Anderson, W. (C.)
Blumer, J. H. (L.)
Duggan, J. P. (L.)
Guy, W. H. (C.)
Jenny, T. G. (L.)
Markel, C. (C.)
Martin, J. L. (M.)
Murphy, H. L. (C.)
Nicholson, H. S. (C.)
Rote, F. C. (C.)
Schleiter, H. G. (L. C.)
Shaffer, H. L. (L.)
Stover, M. E. (M.)
Portage—Buzzard, J. F. (L.)
Pottsville—Wadlinger, C. V. (C.)
Reading—Morgan, D. W. (C.)
Sandy Lake—Fichtner, A. E. (C.)
Scranton—White, R. V. (C.)
Selinsgrove—Landis, L. S. (L.)
Shamokin—Jones, A. S. (C.)
Somerset—Dull, J. E. (C.)
South Connellsville—Dick, P. G. (L.)
Trafford—Pogue, F. M. (C.)
Tremont—Doyle, T. J. (C.)
Simonis, A. E. (C.)
Uniontown—Mulligan, P. B. (L.)
West Chester—Pleasants, H., Jr. (M.)
Wilkinsburg — Patterson, B. H. (M.)
Sample, C. W. (M.)
Yukon—Emerson, H. B. (C.)

RHODE ISLAND

Providence—Baker, N. C. (C.)
Buxton, B. H. (C.)
Riverpoint—Christie, C. S. (L. C.)

SOUTH CAROLINA

Charleston—Desussure, H. W. (C.)
Chester—Gage, L. G. (L.)
Graniteville—Pearce, J. C. (C.)
Greenwood—Harrison, J. D. (M.)

SOUTH DAKOTA

Aberdeen—Vetter, J. H. (L.)
Dell Rapids—Carter, C. A. (L.)
DeSmet—Dyar, B. A. (L. C.)
Groton—Dunn, J. E. (C.)
Redfield—Baldwin, F. M. (C.)
Rosebud—Elliott, L. L. (L.)
Wessington Springs—Keene, F. F. (M.)

TENNESSEE

Brownsville—Chapman, T. C. (L.)
Cumberland Gap—Morison, J. H. A. (C.)
Dukedom—Jones, D. L. (L.)
Gates—Wilson, R. B. (L.)
Henderson—Buck, W. T. (L.)
Humboldt—Oursler, J. W. (C.)
Huntington—Douglass, R. A. (C.)
Knoxville—Hunt, S., Jr. (L.)
Lynnville—Denham, R. H. (L.)
Mascot—Copenhaver, K. C. (C.)
Memphis—Beck, C. M. (M.)
Boccellato, S. L. (L.)
Carter, J. P. (L.)
Ellett, E. C. (L. C.)
Herring, J. H. (L.)
Shearin, L. R. (L.)
Moscow—Cribbens, O. H. (L.)
Murfreesboro—Sharp, A. D. (L.)
Nashville—Dunklin, F. B. (C.)
Fuqua, E. M. (C.)
Hinton, S. B. (C.)
McKinney, T. D. (C.)
Menees, T. W. (L.)
Miller, E. E. (C.)
White, H. D. (C.)
Oneida—Boyatt, F. M. (L.)
Ridgely—Alexander W. S. (C.)
Washington College—Greenway, S. B. (C.)
Watauga—Wallace, J. W. (C.)

TEXAS

Austin—Woolsey, S. A. (L.)
Beeville—Lander, J. H. (M.)
Biggins—Alldredge, H. H. (C.)
Corpus Christi—Arnold, E. O. (L.)
El Paso—Mason, C. H. (C.)
West, O. C. (C.)
Fort Worth—Higgins, P. F. (C.)
Sanders, F. G. (L.)
Houston—Young, C. B., Jr. (L.)
Laredo—Halsell, J. T. (L. C.)
Lyra—Standlee, T. H. (L.)
McGregor—Johnson, A. (L.)
Mobeetie—Nicholson, H. E. (C.)
Nocona—Davis, W. W. (L.)
Post—Surmann, A. C. (L.)
Spur—Moore, W. R. (L.)
Temple—Power, C. L. (C.)

UTAH

Salt Lake City—Davis, G. V. P. (L.)
Roberts, G. F. (C.)
Vernal—Cruikshank, G. H. (C.)

VERMONT

Chester—Roberts, G. (C.)
Montpelier—Chandler, C. P. (C.)
Williston—Frost, H. L. (C.)

VIRGINIA

Bellflower—Stein, C. (C.)
Dante—Taylor, R. E. S. (L.)
Fredericksburg—Pratt, F. C. (C.)
Glen Allen—Hopkins, E. G. (M.)
Hampton—Parramore, J. O. (C.)
Schillinger, E. N. (L.)
Harmony Village—Bennett, J. A. (C.)
Norfolk—Drewry, H. R. (C.)
Petersburg—Booth, J. R. (M.)
Pulaski—Tipton, J. W. (C.)
Richmond—Barney, Q. H. (C.)
Barron, A. A. (C.)
Baughman, G. (C.)
Goldman, I. H. (L.)
Herring, A. L. (M.)
Hopkins, W. B. (C.)
Nelson, J. G. (L. C.)
Williams, C. (C.)
Willis, R. G. (C.)

WASHINGTON

Colfax—Bryant, F. A. (C.)
Kent—Taylor, O. F. (C.)
Seattle—Corson, W. H. (M.)
Hall, D. C. (L. C.)
Spokane—Hilscher, F. W. (C.)
Lambert, S. E. (L. C.)
Nathan, F. L. (M.)
Wapato—Duncan, C. R. (L.)

WEST VIRGINIA

Crystal—Rogers, R. O. (C.)
Dorothy—Pettry, L. (C.)
Welch—Jones, M. E. (M.)
Wheeling—McLain, W. H. (M.)

WISCONSIN

Appleton—Frawley, W. J. (C.)
Arcadia—Davis, L. G. (L.)
Beloit—Shinnick, T. F. (M.)
Haywad—Pake, S. G. (C.)
Laona—Elliott, R. S. (M.)
Menomonie—Egdahl, A. (C.)
Milwaukee—Beffel, J. M. (M.)
Durner, U. J. (L.)
Foerster, H. R. (C.)
Leahy, J. D. (C.)
Murphy, W. J. (L.)
Rogers, P. F. (L.)
Wallschlaeger, G. G. (L.)
Racine—Hanson, W. C. (M.)
Wauwatosa—Bellis, G. L. (M.)

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles—Macleish, A.
Morris, M. J.

CONNECTICUT

South Norwalk—West, H. B.

DISTRICT OF COLUMBIA

Washington—Darby, J. J.
Hammond, T. V., Jr.
Ready, F. J.

GEORGIA

Atlanta—McRae, J. C.

ILLINOIS

Chicago—Howe, H. W.
Kahn, M. E.
Kanter, A. E.

MASSACHUSETTS

Chelsea—Simons, S.
Gloucester—Shinn, P. A.

MINNESOTA

Minneapolis—Swendsen, C. G.

MISSOURI

Kansas City—Denman, J. I.
St. Louis—Gradwohl, R. B. H.

NEBRASKA

Schuyler—Folken, F G.

NEW JERSEY

Gloucester—Geissler, E. E.

NEW YORK

Brooklyn—Hodes, J. E.
New York—Brennan, R. E.
Giles, W. B.
Lowsley, O. S.
Neubauer, F. D.
Sicard, M.
Smith, F. M.
Yonkers—Gaul, W. H.

OREGON

Portland—Bloom, C. F.
Hitchcock, E. D.
Wolf, L. J.

PENNSYLVANIA

Harrisbnrg—Frasier, L. W.
Pittsburgh—Callomon, V. B.
Scranton—Burke, A. E.

TEXAS

Dallas—Collier, G.
Marfa—Darracott, J. C.

VIRGINIA

Portsmouth—Dix, S.
Richmond—Fowlkes C. H.

WEST VIRGINIA

Wheeling—Mendel J. H.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY

Alabama

To Atlanta, Ga., from Fort McPherson, Major W. C. DABNEY, Birmingham.

To Camp Pike, Ark., from Camp Dix, Capt. F. BEARDEN, Morrillton.

Arkansas

To Governors Island, N. Y., from Hot Springs, Col. C. M. GANDY.

To St. Louis, Mo., from Camp Upton, Capt. A. A. BLAIR, Scranton.

California

To Camp Dix, N. J., as cardiovascular and tuberculosis examiner, from Camp Upton, Lieut. W. C. JOHNSON, Fellows.

To Camp Kearney, Calif., from Camp Dix, Lieut. W. W. DODGE, Los Angeles.

Colorado

To Denver, Colo., from Fort D. A. Russell, Major A. J. CAMPBELL, Denver.

The following order has been revoked: *To Fort Sam Houston, Tex.*, Lieut. J. E. JEFFERY, Ordway.

Connecticut

To Camp Dix, N. J., base hospital, from Fort Oglethorpe, Lieut. H. E. STEWART, New Haven.

The following order has been revoked: *To Hoboken, N. J.*, from Camp Dix, Lieut. H. M. HURWITZ, Hartford.

Delaware

To Eastview, N. Y., from Camp Upton, Lieut. J. G. SPACKMAN, Wilmington.

District of Columbia

To Walter Reed General Hospital, D. C., from Camp Dix, Capt. W. H. HUNTINGTON, Washington; from Lakewood, Lieut. F. D. ADAMS, Washington.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Lieut.-Col. W. H. LITTLEPAGE, Washington.

Florida

To Charleston, S. C., from Camp Lee, Capt. C. V. GAUTIER, Passagrille.

To Fort Sam Houston, Tex., base hospital, from Camp Dix, Major L. A. GREENE, Greenville.

Georgia

To Fort McPherson, Ga., from Camp Custer, Lieut. J. D. BLACKBURN, Atlanta.

The following order has been revoked: *To Camp Sherman, Ohio*, from Camp Gordon, Capt. W. E. QUILLIAN, Atlanta.

Idaho

To Fort D. A. Russell, Wyo., from Camp Grant, Lieut. W. L. LINDSAY, Nounan.

Illinois

To Camp Knox, Ky., from Camp Bowie, Capt. P. G. CAPPS, Herrin.

To Camp Sherman, Ohio, base hospital, from Camp Grant, Capt. C. A. STONE, Shipman.

To Detroit, Mich., from Camp Upton, Lieut. G. L. VENABLE, Chicago.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Major E. A. GRAHAM, Chicago.

Indiana

To Fort Benjamin Harrison, Ind., from Camp Dix, Capt. F. H. KELLY, Argos.

The following order has been revoked: *To Washington, D. C.*, Surgeon-General's Office, from Camp Dix, Lieut.-Col. H. O. BRUGGEMAN, Fort Wayne.

Iowa

To Fort Sheridan, Ill., from Lakewood, Lieut. J. O. MURPHY, Eldon.

To Fox Hills, N. Y., from Camp Dix, Capt. S. M. LANGWORTHY, Cedar Rapids.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Col. D. S. FAIRCHILD, Clinton.

Kansas

To Fort Riley, base hospital, from Camp Dix, Major N. A. SEEHORN, Hutchinson.

To Lee Hall, Va., from Hampton, Lieut. L. I. EVANS, Delavan.

Kentucky

To Camp Sherman, Ohio, base hospital, from Camp Dix, Capt. C. W. STROUP, Ludlow.

To Camp Zachary Taylor, Ky., from Camp Dix, Capt. A. G. OSBORNE, Myra.

Maryland

To Hampton, Va., from San Francisco, Lieut. H. E. AUSTIN, Baltimore.

To Otsen, N. C., from Walter Reed General Hospital, Lieut. P. PEARLSTEIN, Baltimore.

To Roland Park, Md., from Baltimore, Capt. L. H. WEED, Baltimore.

Massachusetts

To Boston, Mass., from Camp Devens, Capt. H. J. FITZSIMMONS, Boston; from Lakewood, Lieut. A. G. C. SCHNACK, Boston.

To Camp Sherman, Ohio, base hospital, from Lakewood, Lieut. W. F. COTTING, Boston.

To Camp Upton, N. Y., base hospital, from Camp Dix, Lieut. L. S. KEMP, Canton.

To Walter Reed General Hospital, D. C., from Army Medical School, Lieut. J. H. MURPHY, Boston.

The following order has been revoked: *To Colonia, N. J.*, from Camp Dix, Lieut. E. Y. KAU, Boston.

Michigan

To Detroit, Mich., from Camp Dix, Capt. A. R. PEARCE, Dollar Bay; from Fort Riley, Capt. C. H. BELKNAP, Detroit.

To Fort Leavenworth, Kans., from Camp Dix, Capt. B. H. JENNE, Detroit.

Minnesota

To Camp Dix, N. J., from Fort Riley, Lieut. F. T. CAVANOR, Minneapolis.

To Fort Ontario, N. Y., from Lakewood, Lieut. H. N. KLEIN, St. Paul.

To Fort Sheridan, Ill., from Fort McPherson, Lieut. S. V. HODGE, Minneapolis.

Missouri

To Fort Des Moines, Iowa, from Camp Jackson, Lieut. C. F. DAVIS, Kansas City.

To Fort Riley, from Camp Travis, Capt. D. E. SCHMALHORST, St. Louis.

To Fort Sam Houston, Texas, from Corpus Christi, Lieut. W. J. MELLIES, St. Louis.

To Fox Hills, N. Y., from Lakewood, Lieut. C. M. SAMPSON, St. Joseph.

Nebraska

To Camp Bowie, Texas, from Fort Riley, Lieut. C. W. WAY, Wahoo.

To Camp Dix, N. J., from Fort Riley, Capt. J. J. HOMPES, Lincoln.

New Hampshire

To Camp Abraham Eustis, Va., from Camp Dix, Capt. S. A. QUIMBY, Littleton.

To Camp Zachary Taylor, Ky., base hospital, from Lakewood, Lieut. A. F. SARGENT, Pittsfield.

New Jersey

To Colonia, N. J., from Walter Reed General Hospital, Lieut. J. G. DENELSBECK, Trenton.

To Walter Reed General Hospital, D. C., from Camp Dix, Lieut.-Col. H. A. PHILLIPS.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Lieut. R. M. WILDER.

New York

To Fort Ontario, N. Y., from Camp Dix, Capt. J. J. CUNNINGHAM, New York; from Lakewood, Lieuts. W. PHIPARD, A. TOWBIN, New York.

To Fort Sheridan, Ill., from Camp Sherman, Major R. N. SEVERANCE, Staten Island.

To Fox Hills, N. Y., from Camp Dix, Major R. H. FOWLER, Lieuts. H. A. TRAYNOR, Brooklyn; W. B. RYAN, Jr., New York; from Colonia, Capt. J. C. FISK, New York.

To Hoboken, N. J., Capt. F. W. MOORE, Lieuts. M. N. FOOTE, W. K. PUDNEY, Brooklyn; Capt. N. A. SULLO, Utica.

North Carolina

To Camp Dix, N. J., from Fort Riley, Lieut. R. T. UHLS, Franklinton.

To Hoboken, N. J., Lieut. R. J. LOVILL, Wingate.

Ohio

To Otisville, N. Y., from Columbus Barracks, Lieut.-Col. H. G. HUMPHREYS.

The following order has been revoked: *To Fort Sheridan, Ill.*, from Camp Dix, Major A. MacIVER, Marysville.

Oklahoma

To Fox Hills, N. Y., from Camp Dix, Lieut. C. N. BERRY, Norman.

To Hoboken, N. J., Capts. D. L. GARRETT, Altus; W. McILWAIN, Lone Wolf.

Oregon

To Walter Reed General Hospital, D. C., from Hoboken, Major R. B. DILLEHUNT, Portland.

Pennsylvania

To Army Medical School, from Camp Custer, Capt. S. C. BOWERS, New Freedom. For instruction, from Camp Dix, Capt. W. F. BEITSCH, New Brighton.

To Boston, Mass., from Lakewood, Lieut. T. M. MABON, Pittsburgh.

To Eastview, N. Y., from Lakewood, Lieut. H. W. JONES, Philadelphia.

To Fort McHenry, Md., from Camp Lee, Lieut. V. T. SHIPLEY, Philadelphia.

To Philadelphia, Pa., from Camp Meade, Capt. W. F. MORRISON, Philadelphia.

The following orders have been revoked: *To Fort McHenry, Md.*, from Camp Dix, Capt. N. R. GOLDSMITH, Philadelphia. *To Pittsburgh, Pa.*, from Camp Dix, Lieut. J. H. SEIPEL, Pittsburgh.

Rhode Island

To Detroit, Mich., from Fort Sheridan, Major J. F. HAWKINS, Providence.

South Carolina

To Fort D. A. Russell, Wyo., from Lakewood, Capt. T. C. GALLOWAY, Columbia.

To Walter Reed General Hospital, D. C., from Spartanburg, Lieut. W. E FULMER, Columbia.

Tennessee

To Akron, Ohio, from Hampton, Va., Lieut. E. E. BYRD, National Soldiers Home.

To Camp Pike, Ark., from Camp Dix, Lieut. C. W. BROWN, Memphis.

Texas

To report to the commanding general, Southern Department, from Camp Jackson, Capt. A. L. LINCECUM, Austin; from Camp Travis, Lieut. O. J. GEE, Timpson.

To Washington, D. C., from Spartanburg, Lieut W. C. COLBERT, Chicota.

Utah

To Camp Dix, N. J., from Fort Riley, Capt. G. E. McBRIDE, Magna.

Virginia

To Walter Reed General Hospital, D. C., from Camp Lee, Lieut.-Col. J. M. CABELL, Fort Myer; from Newport News, Capt. B. S. BURNET.

The following order has been revoked: *To Richmond, Va.*, from Camp Dix, Lieut. R. C. HOOKER, Richmond.

Washington

To Camp Lewis, Wash., from Camp Jessup, Major F. J. CULLEN, Napavine.

To report to the commanding general, Philippine Department, from Camp Lee, Lieut. C. R. GLENN, Kelso.

West Virginia

To Camp Jackson, S. C., base hospital, from Camp Gordon, Lieut. C. M. TRUSCHEL, Wheeling.

To Hoboken, N. J., Lieut. G. P. McCOY, Franklin.

Wisconsin

To Camp Dix, N. J., from Fort Riley, Lieut. H. A. VINCENT, Beloit.

To Fort Sheridan, Ill., from Camp Dodge, Capt. G. R. RANDALL, Milwaukee; from Camp Upton, Major L. A. MOORE, Monroe.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

New State Officers.—The forty-third annual meeting of the Arkansas Medical Society was held in Little Rock, May 20 to 22, under the presidency of Dr. Edward F. Ellis, Fayetteville, and the following officers were elected: president, Dr. George S. Brown, Conway; vice presidents, Drs. Charles E. Kitchens, Dequeen; Aaron L. Carmichael, Little Rock, and R. E. Cooksey, Magnolia; secretary, Dr. Clinton P. Meriwether, Little Rock (reelected); treasurer, Dr. William R. Bathurst, Little Rock (reelected).

CALIFORNIA

May Return Annual Fee.—The governor has just approved a bill passed by the legislature authorizing the State Board of Medical Examiners to return annual fees to physicians collected during the time they were in the national service.

Legislature Reverses Itself.—A peculiar situation has arisen in regard to granting osteopaths the right to use the hypodermic syringe in administering local anesthetics. Both houses of the legislature passed House Bill No. 928, granting this right, and also Senate Bill No. 604, forbidding such practice by osteopaths. The two bills had been introduced as companion measures. The decision now rests with the governor as to which shall become a law.

CONNECTICUT

Annual Meeting of State Society.—At the annual meeting of the Connecticut State Medical Society held in Bridgeport, May 21 and 22, the following officers were elected: president, Dr. Charles B. Graves, New London; vice presidents, Drs. George H. Noxon, Darien, and Frank H. Wheeler, New Haven; secretary, Dr. John E. Lane, New Haven (reelected); treasurer, Dr. Phineas H. Ingalls, Hartford; editor of the proceedings, Dr. James F. Rogers, New Haven (reelected). The next meeting will be held at New Haven, May 19 and 20, 1920.

Medical Library Enlarged.—Yale University School of Medicine has enlarged its medical library, providing more space for books and for the reading room. There are now 26,000 volumes in the library, including 14,000 bound volumes of medical journals and society transactions. There are over 250 medical periodicals, including both American and European journals. The library contains the "Index Medicus," the "Surgeon-General's Catalogue," and the "Quarterly Cumulative Index." A part of the library was donated to the medical school by the New Haven Medical Society.

DISTRICT OF COLUMBIA

Emergency Hospital.—Dr. William P. Carr has relinquished the post of chief attending surgeon, having been made consulting surgeon. Dr. James F. Mitchell has been appointed chief attending surgeon.

New Treasurer for Medical Society.—Dr. Charles W. Franzoni, for over forty-six years treasurer of the Medical Society of the District of Columbia, has resigned on account of the infirmities of age. The society accepted the resignation but made Dr. Franzoni treasurer emeritus and continued the honorarium he had formerly received. Dr. Edward G. Seibert was elected treasurer.

GEORGIA

Practice Act Amended.—The Georgia legislature has passed amendments to the medical practice act increasing the requirement of preliminary education in the state to two years of college work in and after the session of 1919-1920; providing for the recognition of certificates granted by the National Board of Medical Examiners and providing for the revocation of the license of any physician convicted of violating the Harrison Narcotic Law.

Personal.—Dr. Charles D. Cleghorn, superintendent of the Macon Hospital, has resigned and has been succeeded by Mr. L. C. Brown.——Dr. Charles L. Williams, who has been in charge of the health department of Macon since the location of Camp Wheeler, has moved to Charleston, S. C., and before leaving was presented with a gold watch and chain by the mayor and council of Macon.——Dr. Mather M. McCord, Rome, health officer of Floyd County, has resigned, to take effect July 1.

ILLINOIS

Special Health Edition of Urbana Daily Courier.—This paper, published in Urbana, Ill., the seat of the state university, issued a special health edition, Monday, May 12, the first day of the "clean-up" week. A six-page supplement is devoted entirely to this campaign, and the articles contained are written by such persons as the chairman of the sanitation committee, president of the Association of Commerce of Urbana, the mayor of the city, county superintendent of schools, members of the University faculties, and many others.

New State Officers.—At the sixty-sixth annual meeting of the Illinois State Medical Society held in Peoria, May 22, under the presidency of Dr. Edward W. Fiegenbaum, Edwardsville, the following officers were elected: President, Dr. J. Warren Van Derslice, Oak Park; president-elect, Dr. W .F. Brinsted, Cairo; vice presidents, Drs. George H. Weber, Peoria, and Clara P. Seippel, Chicago; secretary, Dr. Wilbur H. Gilmore, Mount Vernon (reelected); treasurer, Dr. A. J. Markley, Belvidere (reelected). The next meeting will be held in Rockford.

New Officers.—At the annual meeting of the Knox County Medical Society, held in Galesburg, May 8, Dr. Charles B. Horrell, Galesburg, was elected president; Dr. Clark E. Weir, Abingdon, vice president, and Dr. George S. Bower, Galesburg, secretary (reelected). Of the forty-four members of the society, seventeen were in the military service and eighteen were members of draft boards.——At the annual meeting of the Elgin Physicians' Club, May 5, Dr. Ralph T. Hinton, Elgin, was elected president; Dr. George F. Ruppert, Elgin, vice president, and Dr. Sallie Y. Howell, Elgin, was reelected secretary-treasurer.

Chicago

Personal.—Harry D. Orr, Col., and Daniel W. Rogers, Lieut.-Col., M. C., U. S. Army, have returned from Europe with the Thirty-Third Division.

Sachs Memorial Tablet.—A memorial tablet will be dedicated at the grave of Dr. Theodore B. Sachs, at the Edwards Sanatorium, Naperville, June 1, at 4 p. m. Addresses will be delivered by Drs. Robert H. Babcock, Ethan Allen Gray, and Mrs. M. L. Aren.

LOUISIANA

Six Clinics for Women.—Six new clinics of the Lying-In Hospital Dispensary, New Orleans, for women expecting confinement, are to be opened in various parts of the city, by Dr. Jacob W. Newman, New Orleans, director of the institution.

Personal.—Dr. Joseph A. Danna, New Orleans, who commanded the Loyola Hospital Unit in Italy and recently returned to the United States, has been elected a member of the Board of Directors of the City Bank and Trust Company, New Orleans.——Dr. Fred W. Gaulden, New Orleans, was elected president of the Supreme Council of the Catholic Knights of America at its meeting in St. Louis, May 16.

New Officers.—At the annual meeting of the Louisiana State Medical Society held at Shreveport, April 8 to 10, under the presidency of Dr. Wilkes H. Knolle, New Orleans, the following officers were elected: President, Dr. Eugene L. Henry, Lecompte; vice presidents, Drs. Courtland P. Gray, Monroe; Sidney C. Barrow, Shreveport; Theodore J. Dimitry, New Orleans; secretary-treasurer, Dr. Everard W. Mahler, New Orleans.

MARYLAND

New Officers.—The twenty-second anniversary of the Baltimore County Medical Association was celebrated May 21, at the Hotel Rennert, Baltimore. The officers of the organization are: president, Dr. Frank W. Keating, Owings Mills; vice president, Dr. John W. Harrison, Middleriver; secretary-treasurer, Dr. Alfred T. Gundry, Catonsville.

Health Ordinance for Hagerstown Fails.—A health ordinance, drafted by a committee appointed by seven charitable and social bodies to provide for a city health officer for Hagerstown, failed, as it was held that the appointment of such an officer, created by the proposed ordinance, was vested

in a committee of persons who were not municipal officers. The city attorney has been instructed to draft a health ordinance that will be practical. The committee appointed by the charitable and health organizations was also asked to prepare a new ordinance.

Personal.—Col. A. Depage, the Belgian surgeon, was a guest during this week of the Baltimore committee of the American Medical Association, composed of Drs. John M. T. Finney, Lewellys F. Barker, Archibald C. Harrison, Hugh H. Young and Thomas S. Cullen. Colonel Depage lectured at the Johns Hopkins Hospital on "Hospital Work at the Front," illustrated with lantern slides, on May 21.——Asst. Surg.-Gen. Henry R. Carter, U. S. P. H. S., who has been seriously ill with influenza and pneumonia while on a southern detail, has recovered sufficiently to return to his station, at the U. S. Marine Hospital, Baltimore.

MASSACHUSETTS

Personal.—Dr. Walter D. Berry, assistant superintendent of the Gardner State Colony for the Insane has been appointed resident physician and surgeon of the Connecticut Reformatory, Cheshire.

Asks Increased Pay for Coroners.—Dr. George B. Magrath, Boston, medical examiner (coroner) for Suffolk County, has asked the committee on counties to report favorably on the bill calling for increased salaries of medical examiners (coroners) in Suffolk, from $4,000 to $5,000.

New Officers.—At the annual meeting of the Norfolk District Medical Society held in Boston, May 13, Dr. Francis P. Denny, Brookline, was elected president; Dr. George W. Winchester, vice president; Dr. Bradford Kent, secretary, and Dr. George W. Kaan, treasurer, all of Boston.

MICHIGAN

Personal.—Dr. Fred R. Belknap, Benton Harbor, underwent operation, May 7, at Mercy Hospital, Benton Harbor. ——Dr. William De Kleine has been reelected health officer of Flint.

Physicians Freed by Jury.—In the cases of Drs. Ezra L. Covey, Homer, and Lewis M. Carey, Pontiac, charged with having performed an illegal operation on a Pontiac woman, thereby causing the death of her infant, the circuit court jury returned a verdict of acquittal, May 14.

Hospital Shortage.—The Detroit *Free Press*, in an editorial, May 19, on the inadequacy of the hospital facilities of Detroit, citing the report of Dr. Warren L. Babcock, Detroit, chairman of the hospitals committee of the Community Union, that the city is about 50 per cent., or 2,700 beds, short of its needs.

Municipal Medical School in Detroit.—The Detroit College of Medicine and Surgery is now a municipal institution, having been placed under city control in June, 1918. A bill has just been passed by the Michigan legislature ratifying this action and authorizing the board of education of Detroit to conduct the medical school as a part of its educational system.

State Board Appointments.—Dr. Richard M. Olin, Lansing, secretary of the state health board has been appointed state health commissioner under the new Moore bill.—— Drs. James G. Turner, Houghton, and Guy L. Kiefer, Detroit, have been appointed members of the advisory health council for the six year term, and Dr. Clyde C. Slemons, Grand Rapids, Frank M. Gowdy, St. Joseph, for the four-year term. The fifth member of the council, who must be an attorney, has not been appointed.

MINNESOTA

Cleared of Charges.—At the meeting of the board of trustees of the Soldiers' Home, Minneapolis, May 13, Dr. Thomas C. Clark, superintendent of the home, was exonerated of the charges of neglect which has been made against him by wives of certain inmates of the institution.

Personal.—Dr. Henry M. Bracken, secretary of the state board of health, St. Paul, resigned, May 12, and has been appointed supervisor of District No. 10, of the United States Public Health Service, which comprises Minnesota, North Dakota, South Dakota and Montana. He will hold commission as surgeon of the Reserve Corps, U. S. P. H. S. His headquarters will be in St. Paul, and his duties will be the organization and administration of agencies for the care of war risk patients.—Dr. William B. Wright, Jr., St. Paul, has been appointed superintendent of the Rood Hospital, Hibbing. ——Dr. Mabelle S. Ulrich, Minneapolis, has been appointed a member of the board of public welfare.——At the meeting for organization of the Cottonwood County Health Association at Windom, April 30, Dr. Ludwig L. Sogge was elected president.

NEW HAMPSHIRE

New State Officers.—At the annual meeting of the New Hampshire Medical Society, May 15, the following officers were elected: president, Dr. Augustus W. Shea, Nashua; vice president, Dr. Alpha H. Harriman, Laconia.

President of State Board Dies.—Dr. Albert S. Wetherell, Exeter, president of the state board of pharmacy, aged 68; for many years chairman of the public and state executive committees, a member of the house of representatives in 1893 and 1895 and of the senate in 1901, died at the Cottage Hospital, Exeter, April 1.

NEBRASKA

State Officers for 1920.—At the fifty-first annual meeting of the Nebraska State Medical Association, held in Lincoln, May 20 to 22, under the presidency of Dr. John M. Banister, Omaha, the following officers were elected: president, Dr. H. Winnett Orr, Lincoln; vice presidents, Drs. George H. Brash, Beatrice, and Adolph Sachs, Omaha.

Personal.—Dr. Ernest T. Manning, commissioner of health of Omaha, has resigned. —— Dr. Elizabeth P. M. Hohl, McCook, has been elected grand medical examiner for Nebraska of the Order of Degree of Honor.——Dr. Clifford A. Lutgen, Auburn, who was operated on in Omaha for appendicitis recently, is making rapid progress toward recovery.

NEW YORK

Personal.—The council of New York University has voted unanimously to confer on Dr. William G. Bissell, Buffalo, the honorary degree of Doctor of Public Health, at the coming commencement, June 11.

Lethargic Encephalitis.—In view of the desirability of making pathologic and etiologic studies of fatal cases of lethargic encephalitis, the state department of health requests that when feasible, specimens of the brain and particularly the medulla and pons, and when possible of the spinal cord, be sent promptly to the division of laboratories of the New York state department of health. The specimens should be placed in an abundance of 10 per cent. liquor formaldehyd after small portions of the medulla and pons have been excised and put in a mixture of half glycerin and water. It is also requested that a brief history of the case accompany the specimens.

New Officers.—At the annual meeting of the Medical Society of the State of New York held in Syracuse, May 6 to 9, under the presidency of Dr. Thomas H. Halsted, Syracuse, New York was chosen as the place of meeting for 1920, and the following officers were elected: President, Dr. Grant C. Madill, Ogdensburg; vice presidents, Drs. Dwight H. Murray, Syracuse; William M. Dunning, New York City, and George W. Cottis, Jamestown; secretary, Dr. Floyd M. Crandall, New York (reelected); assistant secretary, Dr. Edward L. Hunt, New York; treasurer, Dr. Harlow Brooks, New York; assistant treasurer, Dr. Thomas C. Chalmers, Queens' County.

New Section Officers.—At the annual meeting of the Medical Society of the State of New York, held in Syracuse, May 5 to 8, the following sectional officers were appointed: section on pediatrics: Dr. Alfred C. Mercer, Syracuse, chairman; Dr. Godfrey R. Pisek, New York City, vice chairman, and Dr. Robert Sloan, Utica, secretary; section on medicine: Dr. Claude C. Lytle, Utica, chairman; Dr. Ledra Heazlit, Auburn, secretary; section on public health: Dr. Paul B. Brooks, Albany, chairman; Arthur D. Jaques, Lynbrook and Rockville Center, secretary; and section on eye, ear, nose and throat: Dr. Arthur J. Bedell, Albany, chairman, and Dr. Irving W. Voorhees, New York City, secretary.

New York City

Treasury Takes Brooklyn Hospital.—The Norwegian Hospital at Fourth Avenue and Forty-Sixth Street, Brooklyn, has been taken over by the Treasury Department. The institution is to be used for caring for men covered by the War Insurance Act whom the Army refuses to discharge from service until cured.

Memorial Hospital for Queens.—The Citizens Committee of the Borough of Queens has announced plans for the erec-

tion of hospital buildings in connection with St. Mary's and the Jamaica Hospitals in memory of the soldiers of the Borough of Queens who lost their lives in the war. The estimated cost of the proposed buildings is $500,000 which will be raised by a public drive throughout the borough. These buildings will be equipped with 100 beds each and with laboratories, clinics, ambulances and other hospital facilities.

Auditorium Building for Mount Sinai Hospital.—The Mount Sinai Hospital has received a gift of $150,000 from Mr. and Mrs. George Blumenthal for the erection of an auditorium building on the hospital grounds at Nintey-Ninth Street east of Fifth Avenue. Besides a large auditorium which will be devoted to the educational work of the hospital, the Mount Sinai Training School for Nurses, and the social service department, the new building will house a new roentgenray department. The building is to be erected as a memorial to George Blumenthal, Jr. The Blumenthal Auditorium, as the new building is to be known, will be the sixteenth building in the Mount Sinai group.

Faculty Appointments at Columbia.—The following appointments and promotions at the College of Physicians and Surgeons of the City of New York are announced by the trustees of Columbia University: Dr. William E. Studdiford, professor of obstetrics and gynecology, to succeed Dr. Edward B. Cragin, deceased; Dr. Allen O. Whipple, associate in surgery, to be assistant professor of pathology; Dr. Benjamin P. Farrell, instructor in orthopedic surgery, to be assistant professor in the same branch; Dr. Louis Casamajor, associate professor of neurology, to be professor of neurology, and Oliver S. Strong, Ph.D., assistant professor of neurology, to be associate professor of neurology.

OKLAHOMA

New Officers.—At the annual meeting of the Oklahoma State Medical Association held in Muskogee, May 20 to 22 under the presidency of Dr. Lewis J. Moorman, Oklahoma City, the following officers were elected: president-elect, Dr. John W. Duke, Guthrie; vice presidents, Drs. Jackson Brashear, Lawton; General Pinnell, Miami, and John A. Hatchett, El Reno. Oklahoma City was selected as the place of meeting for 1920.

Personal.—Dr. Walter H. McKenzie, Enid, has been appointed superintendent of health and United States Medical Examiner for Garfield County.——Dr. George M. Clifton, Norman, has been appointed superintendent of health for Cleveland County.——Dr. John P. Sudderth, Bartlesville, has been reappointed health officer of Nowata County.——Dr. Eugene O. Barker has been appointed city physician of Guthrie.——Floyd J. Bolend, Lieut.-Col., M. C., U. S. Army, Oklahoma City, commanding officer of the One Hundred and Eleventh Sanitary Train of the Thirty-Sixth Division, has been appointed chief surgeon of the American Forces in Italy.

PENNSYLVANIA

Optometry Bill Favored.—Representative Duncan Sinclair of Fayette County was directed by the committee on health and sanitation to report favorably to the house his bill amending the act of March 30, 1917, so as to require a majority of the state optometry board of seven members to be physicians, licensed under the laws of the state and qualified to practice medicine and surgery and that the other members of the board shall be optometrists.

Personals.—Dr. Joseph T. Rothrock, West Chester, was 80 years of age April 9. The American Forestry Association has announced that eighty memorial trees will be planted in honor of Dr. Rothrock, the "father of forestry" in Pennsylvania.——Dr. Henry A. Hutchison, Dixmont, having completed forty years of continuous service in the Dixmont Hospital for the Insane, thirty-five years as its superintendent, tendered the employees and patients a reception and ball at the institution, April 15.

Harrisburg—Proposed Model City for Health.—Members of the Civic Club, Rotary Club, Chamber of Commerce and other organizations attended a preliminary mass meeting, April 14, in the hall of the house of representatives, Harrisburg, at which was outlined State Health Commissioner Martin's plan to make Harrisburg a model city from the standpoint of public health and sanitation, as an example to the other cities of Pennsylvania, concerning the measures the state health department would have them take. Mayor Keister promised the city's hearty cooperation in the plan, as has Dr. John M. J. Raunick, local health officer.

Philadelphia

Dedicate Negro Hospital.—Buildings of the Protestant Episcopal Divinity School on Woodland Avenue, occupying the entire block between Fiftieth and Fifty-First Street, recently purchased by the Mercy Hospital and School for Nurses, was dedicated, May 25. This is the largest hospital in the United States owned and controlled solely by negroes.

Personal.—Dr. Alexander Sterling, Philadelphia, has been appointed assistant physician pro tem, in the department of medicine of the Jewish Hospital, in the service of Dr. S. Solis Cohen.——Dr. Alexander C. Abbott, professor of hygiene at the University of Pennsylvania and in charge of sanitary supervision for the Second Army, A. E. F., has been promoted to colonel.——Dr. Joshua E. Sweet, Philadelpia, on duty with Base Hospital No. 10, has been promoted from major to lieutenant-colonel.——Provost Edgar Fahs Smith of the University of Pennsylvania celebrated his sixty-third birthday, May 23. A loving cup was presented to him by the students. Provost Smith has been professor for the last thirty years at the university and a provost for eight years.

TENNESSEE

Home for Feebleminded.—The house of representatives has passed on final reading a bill giving the state control of its feebleminded, and providing for the establishment of a home for those who may be declared mentally deficient.

State Board Meeting.—The State Board of Preliminary Medical Examiners will hold its annual meeting in Nashville, June 12, and on the two succeeding days the state board of medical examinations will be held. All who desire to take the state board examinations should appear before the board of preliminary examiners, June 12, and obtain the necessary certificate from this board.

Personal.—Edward C. Ellett, Lieut.-Col., M. C., U. S. Army, Memphis, who was commanding officer of Base Hospital No. 115, returned, May 12.——Dr. A. G. Buckner, formerly adjutant-general of Tennessee, has been elected director of dental hygiene by the state board of health.——Dr. Clarence B. A. Turner, Newbern, has been appointed a member of the state board of health, succeeding Dr. Vincent A. Biggs, Martin.——Dr. John Overton, Nashville, has been appointed prison physician.

TEXAS

Health Bureaus Organize.—The state board of health announces the organization of a bureau of child hygiene, with Dr. Oscar Davis, Anderson, as director, a bureau of communicable diseases with Dr. Horace C. Hall, Laredo, as director, and a bureau of public health education and sanitation and preventive medicine, the director of which will be announced later.

Women's Auxiliary Organized.—At the meeting of the State Medical Association of Texas, at Waco, May 14, the Women's Auxiliary to the State Medical Association of Texas was organized, with Mrs. E. H. Carey, Dallas, president. The object of the organization is to extend the aims of the medical profession through the wives of physicians to the various women's organizations which look toward advancement of health and education, to assist in entertaining in state, district and county medical society meetings, and to promote acquaintance between doctors' families.

Personal.—Dr. Henry E. Luehrs, Mathis, is about to leave for South America, where he will have charge of a large hospital.——Dr. Lane B. Kline, who recently secured his discharge from the Medical Corps, U. S. Army, has been appointed health officer of Houston.——Dr. Thomas A. King, Vernon, has been appointed a member of the state board of medical examiners, succeeding Dr. Dabney Berrey, San Antonio.——Dr. A. J. Cook, Laredo, who recently was discharged from the medical corps of the Army, has been secured as physician and surgeon for the Anaconda Copper Company at Portrellos, Chile.

State Association Meeting.—The fifty-third annual meeting of the State Medical Association of Texas was held in Waco, May 13-15, and the following officers were elected: president, Dr. Robert W. Knox, Houston; president-elect, Dr. Thomas T. Jackson, San Antonio; vice presidents: Drs. Martin E. Taber, Dallas; George H. Lee, Galveston, and William L. Crosthwait, Waco; secretary, Dr. Holman Taylor, Fort Worth (reelected); treasurer, Dr. Wilmer L. Allison,

Fort Worth (reelected); trustees: Drs. Charles M. Alexander, Coleman; John S. Turner, Dallas; Charles E. Cantrell; Greenville; John T. Moore, Houston (chairman), and William R. Thompson, Fort Worth (secretary).

WEST VIRGINIA

New State Officers.—At the annual meeting of the West Virginia State Medical Association held in Clarkesburg, May 20 to 22, under the presidency of Dr. Robert J. Reed, Wheeling, the following officers were elected: President, Dr. Henry R. Johnson, Fairmont; vice presidents, Drs. Benjamin F. Shuttleworth, Clarksburg; Walter E. Vest, Huntington; Joseph L. Miller, Thomas; secretary, Dr. J. Howard Anderson, Marytown (reelected); Dr. Hugh G. Nicholsen, Charleston (reelected). Parkerburg was selected as the place of meeting for 1920.

WISCONSIN

Hospital Addition.—The demand for admission to the new Whitehall Community Hospital which was opened last fall has been so great that at the last meeting of the board of directors it was voted to build an addition to accommodate twelve patients. A nurses training school is operated in connection with the institution.

Conference on City Hospital.—The Free Conference of Milwaukee Hospitals, an organization formed for cooperation between medical institutions of the city, held its first meeting, April 20, under the chairmanship of Dr. George C. Ruhland, health commissioner. The council will act only in an advisory capacity, exercising no jurisdiction over the hospitals.

Personal.—Dr. John L. Callahan has been elected president of the board of health of LaCrosse, succeeding Dr. Jacob M. Furstman, who was made head of the department of health of Bloomington, Ill.——Dr. George W. Harrison, Ashland, just returned from overseas, has been elected county physician of Ashland County.——Gustavus I. Hogue, Major, M. C., U. S. Army, Milwaukee, has been promoted to Lieut.-Col., Medical Corps and placed in charge of the Army Eye, Ear, Nose and Throat Hospital in Paris.——Dr. Bertha V. Thomson has been appointed health commissioner of Oshkosh.——Dr. Emil E. Tanner, Milwaukee, has started for Vladivostok, where he will be on duty with the American Red Cross.

CANADA

Personal.—Dr. Archibald P. Knight, for twenty-seven years professor of physiology in Queens University, Kingston, Ont., announces his intention to resign, but will retain his position until his successor has been appointed.

Addition to Endowment Fund.—Queens University, Kingston, Ont., reports that an additional endowment fund of $1,000,000 has been received for the general purposes of the university. With the income of this fund it is proposed to secure several more full-time professors and to develop the departments of physiology and bacteriology and public health. A fund of $200,000 is also available to be expended in the reconstruction of the hospital.

Illegal Practitioner Punished.—In the case of M. H. Thuna, Montreal, who advertised himself as "Dr. Thuna, Specialist. Balsam Medicine for all Diseases," charged by the registrar of the College of Physicians and Surgeons of the province of Quebec with having violated the law regarding the practice of medicine, the accused was found guilty and sentenced to pay a fine of $50, and in default of such payment to be imprisoned for sixty days, in the common prison. The same judgment was rendered on three counts.

LATIN AMERICA

Deaths Abroad.—Dr. H. G. Pinero, professor of physiology in the School of Medicine in the University of Buenos Aires, died recently at Mar del Plata.

The Influenza in Venezuela.—At a recent meeting of the National Academy of Medicine of Caracas, mention was made of the fact that a new wave of influenza seemed imminent, as a number of physicians had already a number of cases of the disease, some of whom had it during the last outbreak.

Pasteur Institute in Nicaragua.—The government of Nicaragua has requested the Mexican government to send a person to establish a Pasteur institute at Managua. The Mexican government has intrusted this task to Dr. G. Leal, who will soon depart for Managua with the necessary personnel and equipment.

GENERAL

Electro-Therapists Meet.—At the annual meeting of the Western Electro-Therapeutical Association, held in Kansas City the second week in May, the following officers were elected: president, Dr. Burton B. Grover, Colorado Springs; vice presidents, Drs. Walter P. Grimes, Kansas City, and Theodore F. Clark, Eldorado, Kan.; secretary, Dr. Charles Wood Fassett, Kansas City, Mo.; treasurer, Dr. Charles Keown, Independence, Mo., and registrar, Dr. Enos A. Nelson, Phillipsburg, Kan.

Venereal Manual Free to Physicians.—The U. S. Public Health Service announces that all physicians agreeing to cooperate with that service and their state board of health in the venereal disease program which has just been agreed on, will be furnished either by the public health service or the state board of health with a copy of the *Manual for the Treatment of Venereal Diseases*, published by the American Medical Association, first issued for the use of the medical officers of the Army and which has now been revised for civilian use with a new chapter on gonorrhea in women.

Pharmacopeial Convention.—Dr. Harvey W. Wiley, Washington, D. C., president of the United States Pharmacopeial Convention, announces the tenth decennial convention, which will meet in Washington, D. C., on the second Tuesday of May, 1920, at 10 a. m., at a hall to be designated hereafter. He asks that all competent and designated bodies and authorities name and issue credentials to the affixed number of delegates to the convention. The appointed delegates are requested promptly to forward their credentials to Dr. Noble P. Barnes, the Arlington Hotel, Washington, D. C., assistant secretary of the convention, who will file them for consideration of the committee on credentials, which will be appointed by the president, not later than March 1, 1920, in accordance with the by-laws. The membership of the convention is made up of three delegates from each of the following: incorporated medical colleges, medical schools connected with incorported colleges and universities; incorporated colleges of pharmacy, and pharmaceutical schools connected with incorporated colleges and universities; incorporated state medical associations; incorporated state pharmaceutical associations; the American Medical Association, and the American Chemical Society. Delegates are appointed, also, by the Surgeon-Generals of the United States Army, Navy and Public Health Service, the Secretary of Agriculture, and the Secretary of Commerce and Labor, the Association of Official Agricultural Chemists, the Association of State and National Food and Dairy Departments, the National Wholesale Druggists' Association, the National Dental Association and by organizations which were admitted to a representation in the convention of 1900.

New York Committee Announces Entertainments for Foreign Guests to the American Medical Association's Annual Session.—The New York City Committee on Reception and Entertainment of Delegates to the American Medical Association has announced the following tentative program for guests from foreign countries to take place on Monday, June 2. The delegates and other foreign physicians will leave the Hotel Waldorf-Astoria for the City Hall by automobile at 11 in the morning. At noon they will be received by the mayor of New York City, the commissioner of health, the commissioner of charities, the president of the board of aldermen, the borough presidents, the deans of the New York medical schools. An address of welcome will be made by the mayor. An opportunity will be afforded to inspect the municipal buildings. At 11:45 the committee will leave the city hall for the Battery where at 1 p. m. it will board the department of charities' steamship *Corrections*. A luncheon will be given to the foreign delegates while on the boat en route up the East River to Willard-Parker Hospital where the boat is scheduled to arrive at 2 o'clock. After an inspection of the laboratories at that hospital, the party will reembark at 2:30 to arrive at Bellevue Hospital at 3 o'clock. After inspection of this hospital, the party will again reembark at 3:30 o'clock, and under the direction of Commissioner Bird S. Coler will visit the Blackwell's Island institutions. They will leave Blackwell's Island at 4:30 o'clock for Randall's Island and the North Brother's Island institutions to visit Riverside Hospital and the health department hospital for drug addicts. Commissioner Royal S. Copeland will be in charge at this point. Physicians visiting New York will be welcome to join this group in inspect-

ing these various institutions, and to attend other events which may be arranged in so far as it is possible to accommodate them after provision is made for the foreign physicians.

Bequests and Donations.—The following bequests and donations have recently been announced:

Eau Claire Hospitals, to be administered by the Visiting Nurse Association, a donation to endow a bed for a year.

Oakville, Tenn., Memphis Sanatorium, a bequest of $1,700 by the will of Frank Trimble.

Brockton (Mass.) Hospital, $5,000 by the will of Elden B. Keith, Brockton.

Lawrence (Mass.) General Hospital, $50,000 by the will of Charles H. Tenney, New York City.

FOREIGN

Personal.—Dr. Albert Calmette, former director of the Pasteur Institute at Lille and now subdirector of the Pasteur Institute in Paris, has been elected an active member of the section on public hygiene and legal medicine in the Paris Academy of Medicine.

Organization of Owners of Private Clinics in Denmark.—The *Ugeskrift for Læger* states that the physicians who have founded private clinics at Copenhagen and in the vicinity have organized and are inviting others throughout the country to join with them for mutual advantage, registering the capacity of the private clinic, the number of beds, and of trained nurses and other attendants and other data.

Prizes Offered by the Spanish Academy of Medicine.—The Real Academia Nacional de Medicina offers a prize for the best work on ferments and antiferments for medicinal use; on the present conception of neurasthenia; on the medical geography and topography of some region in the Asturias, or on an epidemic observed by the writer. The Rubio prize will be awarded for the best medical work published by a Spanish physician in the preceding two years, or the most useful medical invention or remedy.

Medical Congress in Spain.—The first Spanish National Congress of Medicine was held, April 20-25, at Madrid. The king and the minister of education were present at the opening session. Among distinguished foreigners in attendance who delivered lectures were Mme. Curie, the famous French physicist and discoverer of radium, Dr. Vidal of Paris, Dr. Da Fano of Italy and Dr. Wright of England. In connection with the congress was held an exhibition on medicine and hygiene. It is the intention to hold hereafter similar meetings periodically at different places in Spain.

New Hospital Opens.—The new general hospital of the American Church Mission in Wuchang, China, was formally opened, Dec. 14, 1918. The building is three stories in height, is of reenforced concrete and brick structure, is piped for steam heat, hot and cold water, has sanitary drainage, is lighted by electricity, and can accommodate 200 patients. The total cost of land and buildings was more than $100,000. The women's department, known as the Elizabeth Bunn Memorial Hospital, is under the care of Dr. Mary L. James, as superintendent, and the men's department, known as St. Peter's Hospital, is under the superintendency of Dr. C. McA. Wassell.

Northern League Against Tuberculosis.—Representatives of the organizations that have been formed in Denmark, Finland and Norway to combat tuberculosis met at Stockholm in March, on the invitation of the Swedish organization of the same nature. The purpose was to form a general Nordisk Forening mod Tuberkulose, to cooperate all means to stamp out tuberculosis in these northern lands, both the social service side as well as the medical side. An invitation was also sent to the Iceland Medical Society asking for their cooperation. Conferences on tuberculosis are planned. The first one is scheduled to be held at Stockholm in the summer of 1920.

Antivenereal Campaign in Spain.—By a royal decree there has been organized recently in Spain a permanent board to control venereal diseases which will have as its object the study of all measures proposed by the Spanish Antivenereal League, and reporting to the government in regard to the necessary means to combat these diseases. The first meeting of the new board was held in Madrid, April 1. According to the statement made by the director general of public health, Dr. Martin Salazar, it is the intention to follow generally the plan adopted in England, and create institutions for the prompt diagnosis and treatment of these diseases. The personnel of the board includes not only of some of the most prominent physicians of Spain but also of persons representing all social classes.

PARIS LETTER

PARIS, May 1, 1919.

Smallpox Vaccination in Paris Factories Manufacturing War Material

In accordance with a decision of the undersecretary of state for the army medical corps the military personnel employed in government factories or engaged in work in connection with the national defense has been revaccinated against smallpox, the work having been assigned to the Paris headquarters of the army medical corps. Drs. E. Marchoux and Klotz reported at a recent meeting of the Académie de médecine the results obtained by this measure. This work was carried out between Jan. 17, 1917, and Dec. 31, 1918, in 4,000 factories distributed throughout the Paris military district. During this period 306,587 vaccinations were made with 124,168 "takes," more than 50 per cent. of which were successful. Because of the danger from infection on account of the contaminating nature of the work done by these persons, who worked with bared arms, only three light punctures were made with the point of the stylet used for this purpose.

Nervous and Mental Disturbances Following Influenza

Dr. Henri Claude reported to the Académie de médecine that he had seen some uncommon but benign nervous disturbances and frequent and serious mental disturbances during the convalescence from and as a result of influenza. The nervous disturbances consisted of various neuralgias, in keeping with the alterations in the nerves or their roots, and of asthenic symptoms in connection with myalgias. In one instance Claude observed a flaccid paralysis with sloughing and the necropsy showed hemorrhages into the gray matter of the cord, the result of considerable dilatation of the small vessels without any apparent inflammatory reaction. The mental disturbances which were noted in seven young women and one boy, aged 13, sometimes took on the form of acute delirium with agitation, violence, fear and erotic excitation, and, at other times, was of a depressive nature. In two cases ideas of persecution followed erotic excitation or a display of negativism. A cure resulted in four cases; three took a very serious turn; two of these terminated in death, and the third patient is recovering from a condition of manic excitement. Necropsy in the fatal cases demonstrated congestive lesions with small meningeal hemorrhages and especially in islands of edema in the cortical substance surrounding greatly dilated small vessels. Nowhere was there any evidence of inflammatory reaction, but the tissue cells were altered in these zones of vasodilatation and edema.

Congress on Social Hygiene

The end of this congress was marked by the adoption of certain resolutions which were the outcome of discussions. The section on school hygiene went on record as favoring the compulsory use of shower baths by schoolchildren; the section on hygienic housing interested itself in the use of new materials in the reconstruction of the regions devastated by the war; the section on sanitary prophylaxis endorsed the establishment of an interallied institute of social hygiene and of dispensaries to combat the disease, and to endow laboratories of bacteriology. It was also urged that shell holes be filled up to prevent the development of malaria; that all engineering work undertaken to supply the army with good drinking water be turned over to the respective communities; that a plan for new schools be submitted to a competent commission consisting of educators and physicians, and that all public carriers shall be required to comply with hygienic rules, such as frequent disinfection, prohibition of spitting, and segregation of smokers.

American Physician Decorated with Legion of Honor

Dr. Alexander Bruno, assistant director of the Rockefeller Tuberculosis Commission in France, has received the decoration of a chevalier of the Legion of Honor in recognition of the care and attention given by this American surgeon since 1916 to the French wounded in the hospitals and of his most valuable cooperation in the organization of the campaign against tuberculosis in France.

French Physicians Honored

Dr. Lejars, professor of external pathology on the Paris medical faculty, and consulting surgeon of the Tenth Army Corps, has received a citation, in the order of the day, for his wise counsel and unselfish devotion to duty.

Dr. H. Somen, médecin aide-major of the first class, has received the decoration of a chevalier of the Legion of Honor for his devotion to duty, energy and bravery. He was wounded three times and has received six citations.

LONDON LETTER

LONDON, May 8, 1919.

A Postgraduate Medical Association

At the Royal Society of Medicine a meeting has been held to discuss the formation of a postgraduate medical association. The basis of the discussion was the scheme described in a previous letter to THE JOURNAL. Sir William Osler, who presided, said that there were three possibilities: to extend existing postgraduate schools; to establish separate colleges; or to unite the medical schools, postgraduate colleges and special hospitals in an association which would consolidate all the teaching interests. The last had been chosen as the most hopeful. These various schools and hospitals had consented to arrange special classes and to give facilities for research work and general study. Arrangements, it was hoped, would be made for utilizing the enormous material in the fever hospitals and Poor Law infirmaries, and to give special students an opportunity to study problems relating to public health and preventive medicine. In connection with the representative council, to be set up there would be a permanent secretarial staff, whose duties would be to keep in touch with every medical school in the United States, the dominions, India and Egypt, so that at least every quarter there would appear on the bulletin board of these schools abroad information about postgraduate work in the United Kingdom; also to receive students on arrival in London, and to provide weekly information as to postgraduate facilities. The secretary's office, in fact, would combine the functions of a clearing house and of a university registry. Branch offices could be established at the provincial schools, and it was to be hoped that there would be cooperation with a similar organization in Scotland and Ireland. There would be interchange of information with the Paris Postgraduate Committee; and British students wishing to visit the United States or the dominions for graduate work could find in the central bureau up-to-date information. Another point of importance was the organization in each county center of a yearly postgraduate course of ten days or two weeks, free, or at a very small cost, to all physicians of the neighborhood. Such classes might be held at the county hospitals, and the central organization could be of great help in furnishing special teachers.

Prof. G. E. MacLean (director of the American Universities' Union) pledged the cooperation of that body. When America came into the war 153 of the leading universities and colleges in the United States organized that union to look after the college men in the American Expeditionary Forces. The headquarters of the union were in Paris, and there was one branch in London, and one in Rome. Now the war was over it was hoped to retain the league of universities as an "anchor to the windward" for the League of Nations. Its aim was to bring about interchange of professors and students, and to serve as a clearing house of information, including the giving of particulars to British students as to opportunities for study in the United States.

The following resolution was carried unanimously: "That each London undergraduate medical school be invited to appoint two representatives to serve on the council of the association, and that all other participating institutions be invited to appoint one representative. That the board of education, the medical research committee, the dominions of Canada, Australia, New Zealand, and South Africa, and the United States be invited to appoint one representative each. That the council shall have power to co-opt on the council of the association not more than five distinguished laymen interested in medical education.

The Prevention of Anthrax

A bill has been read a second time in the House of Commons to control the importation of goods infected, or likely to be infected, with anthrax and to provide for their disinfection. In spite of all precautions there has been a steady increase in the number of cases of anthrax in this country. Between 1911 and 1915 there were 164 cases, and between 1915 and 1918, three years only, there were 198. The proportion of fatal cases is approximately 25 per cent. Internal anthrax is almost universally fatal. The bill contains two main provisions. It gives power to prohibit the importation of goods infected or likely to be infected, either absolutely or except at certain specified ports, and it empowers the secretary of state to provide and maintain the necessary works for the disinfection of goods, and to make rules for the payment of fees by the importers of such goods. The cost for setting up the first station for this work was estimated on a prewar basis at $90,000.

Deaths

Henry Davidson Fry ● Washington, D. C.; University of Maryland, Baltimore, 1876; aged 66; professor of obstetrics and clinical professor of gynecology in the Georgetown University, Washington from 1895 to 1917, and since that time emeritus professor of obstetrics; professor of obstetrics in the Washington Post-Graduate Medical School; gynecologist to Garfield Memorial Hospital, and obstetrician to the Columbia Lying-In and Georgtown University hospitals; vice president of the American Gynecological Society in 1904; died at his home, May 12, from arteriosclerosis.

Albert Anderson ● Estherville, Iowa; State University of Iowa, Iowa City, 1890; aged 57; also a pharmacist; division surgeon for Burlington, Cedar Rapids and Northern Railway from 1896 to 1902 and since 1902 local surgeon for the Rock Island system; founder of the Anderson Hospital, Estherville; for four years a member of the city council and for several terms a member and president of the board of education; died in the Anderson Hospital, Estherville, May 12, from cerebral hemorrhage.

Warren Fielding Scott ● **Lieut., M. C., U. S. Army,** Paluiah, La.; Tulane University, New Orleans, 1912; aged 30; who served for nine months with the British forces in Flanders and later with the American Expeditionary Forces in Base Hospital No. 24, and was discharged from the service, April 28, at Camp Merritt, N. J.; died in Vicksburg, Miss., May 12, from spinal meningitis.

William H. Bennett ● Atlantic City, N. J.; University of Pennsylvania, Philadelphia, 1869; aged 75; formerly a practitioner of Philadelphia; for many years president of the board of St. Christopher's Hospital and for forty-seven years president and physician in charge of the Children's Sea Side Home, Atlantic City; died at his home, May 14, from cerebral hemorrhage.

Theophilus Caliway Robinson, Long Beach, Calif.; Hahnemann Medical College of the Pacific, San Francisco, 1902; aged 51; who served as a captain, Medical Corps, U. S. Army, at Fort Riley, Kan., and was operated on there for tumor of the bladder, and was honorably discharged from the service, Nov. 15, 1918; died at his home, May 2.

Robert Leach, Columbus, Ohio; Ohio Medical University, Columbus, 1897; aged 45; a specialist in surgery; formerly local surgeon of the Baltimore and Ohio, and Baltimore and Ohio Southwestern railways at Mount Sterling, Ohio; died at his home, May 12, from myocarditis following articular rheumatism.

David Gamble Murrell, New Orleans; Hospital College of Medicine, Louisville, Ky., 1878; aged 70; a Confederate veteran; for several years professor of anatomy in his alma mater, and later a practitioner of Paducah, Ky., where he organized the Railroad Hospital; died at his home, May 17.

Charles H. Raffety, Portland, Ore.; Willamette University, Salem, Ore., 1869; aged 80; also a pharmacist; one of the first mayors of East Portland; for eighteen years a member of the Portland water board; died at his home, May 10, from cerebral hemorrhage.

Thomas Harold Orser ● **Capt., M. C., U. S. Army,** Cold Brook, N. Y.; Queen's University, Kingston, Ont., 1902; aged 45; visiting physician to the Harlem Dispensary; assistant clinician to the New York University Dispensary; died at his home, April 20.

Junius A. Woolfolk, Thruston, Ky.; University of Louisville, Ky., 1877; aged 62; a member of the Kentucky State Medical Association; died at his home, May 13, from injuries sustained when an automobile collided with a buggy which he was driving.

Joseph Webster Heath, Wakefield, Mass.; Bowdoin Medical School, Brunswick and Portland, Me., 1877; aged 65; past president of the Middlesex East District Medical Society; died in his office, May 15, from cerebral hemorrhage.

Foster Sudler, Sudlersville, Md.; University of Pennsylvania, Philadelphia, 1896; aged 49; vice president of the Sudlersville Bank; who had been a sufferer from tuberculosis for five years; died from that disease at his home, May 8.

● Indicates "Fellow" of the American Medical Association.

George Saley Muirhead, Marion, Iowa; State University of Iowa, College of Homeopathic Medicine, Iowa City, 1891; aged 51; a member of the Iowa State Medical Society; died in Mercy Hospital, Cedar Rapids, Iowa, May 11.

Lauren Alonzo Sadler, Washington, D. C.; Western Reserve University, Cleveland, 1890; aged 50; for many years principal examiner of the U. S. Patent Office, Washington, D. C.; died at his home, May 8.

James William Snowball ✠ Atlantic City, N. J.; Jefferson Medical College, 1891; aged 54; a specialist on diseases of the nose and throat; died in the Atlantic City Hospital, May 14, after a surgical operation.

William H. Johnson, Indianapolis; Indiana Medical College, Indianapolis, 1877; aged 63; for one term a member of the city council; died at his home, March 26, from angina pectoris.

Charles J. Sutterle, Niles Center, Ill.; Cleveland Medical College, Homeopathic, 1893; aged 59; died at his home, May 12, from retroperitoneal abscess and peritonitis following a fall.

Thomas B. Jennings, Drakesville, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1873; aged 76; a member of the Iowa State Medical Society; died at his home, May 7.

Ernest Barry ✠ San Francisco; Cooper Medical College, San Francisco, 1895; aged 52; a specialist in gynecology; died in San Francisco, April 20, from pneumonia.

Joseph P. Claybaugh, Castle Rock, Wash.; Rush Medical College, 1883; aged 65; died in a hospital in Seattle, April 25, from heart disease after a surgical operation.

Roy D. Hensel ✠ **Capt., M. C., U. S. Army,** Detroit; Michigan College of Medicine and Surgery, Detroit, 1899; aged 42; died at his home, May 11, from heart disease.

Wesley Love, Higginsport, Ohio; Medical College of Ohio, Cincinnati, 1859; aged 83; died at his home, May 16, from cerebral hemorrhage.

William Henry Keeney, Aurora, Neb.; Indiana Medical College, Indianapolis, 1873; aged 67; also a pharmacist; died at his home, May 1.

Benjamin B. Reath, Philadelphia; University of Pennsylvania, Philadelphia, 1887; aged 56; died at his home, May 6, from pneumonia.

Albert Franklin Hahn, Eau Claire, Wis.; University of Illinois, Chicago, 1893; aged 51; died at his home, April 21, from nephritis.

Seaborn T. Carter, Climax, Ga.; University of Tennessee, Nashville, 1891; aged 51; died at his home, April 10, from heart disease.

Clarence Francis Desmond, Worcester, Mass.; Harvard Medical School, 1897; aged 46; died at his home, about April 28.

Stuart Thornton Ashton, Ballston, Va.; University of Maryland, Baltimore, 1876; aged 63; died at his home, about April 7.

F. Harvey Day, Wilmington, Del.; University of Pennsylvania, Philadelphia, 1885; aged 56; died at his home, May 8.

Alfred C. Perry, Covington, Ga.; Medical College of Georgia, Augusta, 1869; aged 74; died at his home, May 10.

Sophia F. Badger, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1887; died at her home, May 9.

John G. Trine, Chicago (license, years of practice, Illinois, 1877); aged 88; died at his home, May 14.

Marriages

EVERETT COLGATE JESSUP, Roslyn, L. I., N. Y., to Miss Helen Batho Castle of Kensington, London, England, May 15.

ROBERT CLARKE ALLEN, St. Joseph, Mich., to Mrs. Helen Baker of Detroit, recently.

JOHN JOSEPH GARRY to Miss Nancy M. Brackett, both of Worcester, Mass., May 12.

ARCHIBALD A. BOOTHE to Mrs. Margarett Hicks, both of Jackson, Tenn., May 6.

JOHN N. CALHOUN, Lisbon, Ohio, to Miss Sadie Dennis of Cleveland, recently.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE DR. D. A. WILLIAMS COMPANY

A Mail-Order "Kidney and Bladder Disease" Cure

"The Williams Treatment," according to the Dr. D. A. Williams Company, which sells it on the mail-order plan from East Hampton, Conn., "conquers kidney and bladder diseases, rheumatism and all other ailments when due to excessive uric acid." The Dr. D. A. Williams concern is not operated by Dr. D. A. Williams, in fact, so far as our records show, and they are based on official data, D. A. Williams is not an "M.D." The company is practically owned by a man who used to be a traveling salesman, although an attorney also seems to have an interest in this mail-order "kidney cure."

Some years ago D. A. Williams was operating a little mail-order concern of his own, and his letterheads described him as "Dr. D. A. Williams, Specialist in Diseases of the Kidneys and Bladder." He signed these letters "Dr. D. A. Williams." This concern, also conducted at East Hampton, was some years later succeeded by the present company, which was incorporated under the Connecticut laws in 1906. So well has this medical mail-order business succeeded that it gives the little village of East Hampton, with its population of about 1,500, a postoffice of the second class.

At the time that D. A. Williams was running "on his own" he was featuring "Dr. Boies' Specific," a "combination of purely herbal ingredients" and "the Only Known Complete Cure for Chronic Cases." Williams modestly advertised: "All kidney and bladder diseases permanently cured at small cost." As a side line D. A. Williams also sold—on the mail-order plan—"Urethral Balm," which he had "perfected" and sold as a "permanent cure for Prostatic troubles, Stricture, and all Urethral and Womb troubles of man and woman." He had, too, a "Nerve Tonic," which was offered, "Private to Men," as "a remedy for Nervous Debility, Nerve Decay, Impotency, Vital Losses and Kindred Ailments."

Today the Dr. D. A. Williams Company sells, not "Dr. Boies' Specific," but the "Williams Treatment," and there is but a passing reference in some of the advertising matter to "Urethral Balm." The Williams booklets perpetuate the stock fallacies of the kidney cure vendor. The old falsehood that the "first warning" of kidney disease "is a sore and aching back" is solemnly repeated. That common fallacy of the layman that diabetes is a kidney disease appears in the statement "diabetes is one of the most prevalent diseases of the kidneys"; it is "the result of a minor trouble commonly known as 'kidney trouble.'"

The Williams concern explains why it does business with the public direct instead of offering its "treatment" through the druggists. The first reason is a charge against druggists "of substituting other treatments, saying they are just as good, where in reality they have but little affinity for the disease"; the second reason is that it would be necessary for the company to "double the price of the treatment"; third, the drugs in the drug store are often purchased in large orders and therefore "the goods often become stale, losing much of their remedial value."

During the past five or six years THE JOURNAL has received specimens of the follow-up letters and other advertising matter sent out by the Dr. D. A. Williams Company. Sometimes these letters were signed by "Theodore Flaacks, Pres."; sometimes "J. M. Stearns, Manager"; and occasionally "Dr. E. E. Williams, Medical Advisor." Who the Dr. E. E. Williams is that acts as medical advisor to this concern we do not know. According to our records, the only Dr. E. E. Williams licensed to practice in Connecticut, lives in the little village of Moodus, about 5 miles from East Hamp-

ton. He was licensed in 1893, but our records fail to show that he is a graduate of any medical college.

It seems that the Williams concern, in common with most mail-order medical concerns, disposes of its "sucker lists" after these have ceased to be profitable. A company in New York City which made a business of purchasing for subsequent rental or resale *original letters* written to medical mail-order concerns, listed under its "Kidney Letters" the following:

62,366.....DR. D. A. WILLIAMS, 1901 TO 1906.
29,076.....DR. D. A. WILLIAMS, LATE 1906 TO 1910.
8,655.....DR. D. A. WILLIAMS, LATE 1900 TO 1909.

In accordance with the tenets of empiricism, the public, which is asked to pour this nostrum down its throat, is given no hint as to what there is in it. But:

"The Williams Treatment is different from any Kidney or Bladder remedy on the market. Its ingredients are scientifically blended and of a distinctly curative nature. It does *more* than merely deaden pain and give short relief. It is pure and wholesome and *does not* contain Alcohol, Morphin, Opium, Cocain, Saltpeter or Dangerous Drugs.

"It expels Uric Acid, helps to sterilize the urine, cleanses the kidneys and gives tone and strength to their tubular cells. It is a restorative of Kidney Vitality and casts out poisonous matter whether of a toxic nature or not. It cleanses the bladder and quells inflammation of its mucous surface and its effect on calculus or gravel formation is to aid in their dissolution. It is unequalled in building up weak urinary ducts and glands and a great aid to natural passage of urine."

The Dr. D. A. Williams Company sends, to those who write for it, a free sample, emphasizing that this is but a trial and that the recipient should purchase at least a full-sized bottle, $1.25—"6 bottles for $6.00." A letter, printed to simulate an individual typewritten communication, is also sent, explaining that "Dr. Williams has treated uric acid conditions for more than thirty-six years and he varies the treatment to meet the demands for each different condition." For this reason the prospective purchaser is urged to fill out the symptom blank so that advice "concerning diet and other matters" may be sent.

Several bottles of the Williams Treatment were purchased and submitted to the A. M. A. Chemical Laboratory for examination. Here is what the chemists report:

CHEMISTS' REPORT

"The Williams Treatment is a dark reddish brown mixture with the odor of wintergreen or methyl salicylate. It contains considerable undissolved crystals which pass into solution when water is added to the 'treatment.' Acetate, bicarbonate, caramel, potassium, traces of formate and of salicylate were found present. No nitrogenous drugs or alkaloids could be detected. Potassium was the only metal found. Samples vary somewhat in the quantities of the constituents found but are approximately as follows:

"Residue when dried at 100 C. (including undissolved crystals) 57 gm. in 100 c.c.
"Potassium acetate (calculated from total volatile acids) 48 gm. in 100 c.c.
"Potassium bicarbonate 7 gm. in 100 c.c.

"The formate found was in very small amounts and may have been formed from the caramel color during the distillation with acid. The salicylate, also in very small amount, no doubt came from the methyl salicylate or oil of wintergreen.

"From this examination we conclude that Williams Treatment is essentially a mixture containing, in 100 c.c., 48 gm. potassium acetate in solution and about 7 gm. potassium bicarbonate, the latter being largely undissolved. The mixture is colored with caramel and flavored with oil of wintergreen or methyl salicylate."

A study of "patent medicines" makes it possible to deduce with a fair degree of accuracy the probable composition of these products. Nostrums of the "headache cure" type, for example, may be counted on to contain acetanilid, phenacetin or antipyrin; the "tonics" and "female weakness cures" invariably have for their most active drug, alcohol; the epilepsy "cures" contain, of course, bromids. Remedies for the self-treatment of diseases of the kidneys—and also for diabetes, for the nostrum maker fosters the common fallacy that diabetes is a "kidney disease"—practically always contain as their most active ingredient a diuretic. The "Williams Treatment" runs true to type. For all practical purposes, the "treatment" may be said to be a simple solution of potassium acetate, colored and flavored. From a public health standpoint, there are several objections to the Williams Treatment: first, kidney disease is much too serious a condition to be self-treated; second, attempts to diagnose and treat ailments on the mail-order plan are the sheerest quackery; third, the Williams nostrum is secret in composition; and, fourth, analysis shows the preparation contains a renal irritant which may seriously damage a kidney whose structure is already in a state of acute or chronic inflammation.

Correspondence

THE GOLDENROD AND "HAY-FEVER"

To the Editor:—I have been very much interested in an editorial comment in a recent number of THE JOURNAL (April 19, 1919), in which it is claimed that hereafter the goldenrod must be cast out of the company of the flowering plants which are generally supposed to cause the onset of the disease falsely known as hay-fever. Whenever I have chanced, in writing or debate, to discuss the alleged specific influence of pollen as the solitary source of that affection or to combat the well-nigh universal popular belief that this particular wild flower is, among others, responsible for its manifestations, in endeavoring to plead its innocence of the charge, I have always turned involuntarily to the descriptive verse of Lowell, in which he paints, with exquisite delicacy, the national flower:

Dear common flower that growest beside the way,
Fringing the dusty road with harmless gold.

The object of this brief note is not to open or disturb the pollen question, but in avoiding it and leaving it, simply to say in passing that one by one some of the best known and most conspicuous of the natural objects which by common consent have been regarded as unquestioned causes of the malady and inseparably connected with the mechanism of its attacks have been shown by recent experiment to be pathologically sinless and innocuous. Yesterday it was the rose; today it is the roadside's guiltless gold; tomorrow it will be some other equally "well known" pollen-laden carrier of infection.

The term "hay-fever" is a singularly unfortunate misnomer. Its origin is obscure. It seems to have come into general use in the first quarter of the last century (somewhere between the years 1819 and 1828), probably through some irresponsible, unscientific, popular medium, and at once became the commonly accepted name for the affection. Had his contemporaries listened to Bostock, who repudiated the employment of the term, we would before this have traveled much farther on the road to the solution of the nature of a condition which is not a fever and which is not caused by hay.

In the exclusive search for its explanation in the flowery kingdom of plants, we are in grave danger of literally going very far afield, of losing sight of the complex forces concerned in its production which are inherent in the person himself, and by diverting the mind from more essential etiologic conditions and by introducing an element of confusion into the investigation of the complaint, we may in a large measure retard the progress of therapeutic inquiry. Indeed, in the light of the passing conception of its pathology, which at present has possession of the hour, the treatment is inadequate, uncertain and unsatisfactory, and is carried out often with much trouble, with considerable discomfort and personal inconvenience and in some instances with dangerous results.

The true character of this remarkable disorder is still elusive, baffling and far off. Through the uncertain and changing atmosphere which surrounds it we as yet see dimly. The solution of the problem must be approached not hastily by one avenue alone, but along many paths of patient search. Let us broaden, not contract, the horizon of our observation. Among other things, let us look beyond the

narrow study of one or more exciting causes into the nervous power that makes their operation possible, and, by viewing it from every angle and from a higher vantage ground, let us hope to hasten the coming of the day when the whole subject shall be lifted out of the dust of controversy and out of the darkness of hypothesis into the light of imperishable fact.

JOHN N. MACKENZIE, Baltimore.

THE ADMINISTRATION OF ARSPHENAMIN

To the Editor:—In your issue of May 10 you publish a letter from the director of the Hygienic Laboratory, U. S. Public Health Service, in which he declares it as a requisite to safe administration of arsphenamin that 0.1 gm. of the drug should be dissolved in at least 30 c.c. of fluid and that each injection of 0.3 gm. of the drug should require at least six minutes.

While I recognize that it is a wise policy to be overcareful in the administration of such a powerful drug and to err, if at all, on the safe side, I must take issue with the concluding remarks: "any physician who fails to observe these precautions should be considered as directly responsible for serious results that follow the improper use of the drug." As a matter of fact, I can state that in the many thousand injections which have been given in my service at Mount Sinai Hospital, it has been the standard rule to dissolve each 0.1 gm. in 20 c.c. of freshly distilled water, and to inject it, not with undue haste, but only in exceptional cases where small veins require the use of small needles, as slowly as Dr. McCoy suggests. The average injection takes about half the time defined by him as the minimum.

It is not in the spirit of controversy but with the aim of protecting the medical profession that I ask you to publish this letter, for I realize that if the occurrence of unavoidable reactions, rare as they are, should lead to a suit for malpractice, a well meant but too apodictical statement from such an authoritative source might be detrimental to a member of the profession.

H. GOLDENBERG, M.D., New York.

REPRINTS ON DISORDERS OF THE BLOOD

To the Editor:—I am setting out to make a collection of reprints and cuttings from the medical press of papers dealing with the clinical and experimental aspects of disorders of the blood. I have already about 2,000. These are indexed and filed and will, I hope, prove of permanent value.

American literature is not so well represented as I could desire. I have most of the papers on Gaucher's splenomegaly and excerpts from your own pages for the last few years, but much is still lacking. Would you be so good as to print this letter and allow me to ask those interested in the subject to send me any reprints they have.

Accounts of disease chacterized by abnormal shapes of the red cells and by abnormal phagocytosis are practically confined to American literature; there also one looks for much of the work on the spleen and nearly all that on hemolymph glands; purpura is much more fully dealt with than in English literature, and, generally speaking, we have little to compare with your experimental work.

It would be impossible for me to write to each author individually or to keep track of every paper published. Nor can I subscribe to all the journals in which this work is found.

If any reprints of my own are of sufficient interest, I shall of course be delighted to exchange them. Any reprints sent will be acknowledged at once.

I thank you in advance for your courtesy.

GORDON WARD, M.D.,
The Vine, Sevenoaks, Kent, England.

A Foresight.—I hope to live to see the time when the increased efficiency in the public health service—federal, state and municipal—will show itself in a greatly reduced death rate. The federal government can give a powerful impulse to this end by creating a model public health service, and making our national capital a model, sanitary city.—President Taft.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

GLUTEN FLOUR FOR DIABETES

To the Editor:—Will you give me the address of a company which makes gluten flours to be used in the treatment of diabetic patients? Do you consider gluten flour reliable in the treatment of diabetes?

C. T. PANKHURST, M.D., North Star, Mich.

ANSWER.—Gluten flour is not a "treatment" for diabetes in the sense that it has any remedial value. The treatment of diabetes is essentially dietetic and hygienic, drugs playing a minor rôle. An important feature of the dietetic treatment is the restriction of the carbohydrate intake. As the commonest of the carbohydrate-containing foods is bread, the problem of substituting for ordinary bread a product somewhat similar in character, but without so high a starch content, becomes important. Gluten flours have been developed for this purpose. They are essentially wheat flours from which a large proportion of the starch has been removed, leaving a proportionate excess of the protein element (gluten). It thus becomes obvious that the important element in gluten flours is not the presence of larger amounts of protein, but the comparative absence of starch. There are many so-called gluten flours on the market which are extremely dangerous for use in diabetes because of the large proportion of starch they contain. A safe gluten flour is marketed by Herman Barker, Sommerville, Mass. This has been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. The Barker product comes in three grades: Grade A contains 4 per cent. carbohydrate; Grade B, 7 per cent.; Grade C, 12 per cent. Certain flours for the use of diabetics in making breads, muffins, etc., that are low in carbohydrate content have also been admitted to N. N. R. These, however, do not have wheat flour as their base, and are therefore not gluten flours, the protein element being derived from the soy bean in one case and from milk casein in another.

ABSORPTION OF WATER FROM THE STOMACH

To the Editor:—I have been taught that water is not absorbed from the stomach. Dr. Casares (THE JOURNAL, May 3, 1919, p. 1336) speaks repeatedly to the contrary. Both cannot be right. Is there anything new concerning this question, pro or con?

EDGAR A. HALL, M.D., Coal City, Ill.

ANSWER.—The article referred to is on the "Treatment of Malaria" by J. M. Casares y Bescanza, published in *Plus Ultra*, Madrid, p. 186, and abstracted in THE JOURNAL of May 3. According to most physiologic textbooks, water is not absorbed from the stomach. Fluids pass through the stomach rapidly and are absorbed from the intestine. For years physiologic laboratories have given to medical classes a practical demonstration of this fact. A cat is lightly anesthetized, and 50 c.c. of distilled water heated to 37 C. is introduced into the empty stomach, the cardiac orifice of the stomach having previously been ligated off and a ligature placed about the pylorus. A similar amount of water is introduced into the small intestine, both ends of which are closed by ligatures. Care is taken not to interfere with the blood supply to the stomach or intestine. The animal is allowed to recover from the anesthetic and after from three to four hours is again anesthetized. The gastric and intestinal contents are measured, and the stomach is found to contain, on the average, about 47 c.c. of the water introduced —sometimes more, sometimes less; the intestines are invariably empty. Hence, the stomach absorbs practically none of the water, while the intestines absorb all. The slight apparent absorption from the stomach—3 c.c. in three hours —may be accounted for by the adherence of some of the water to the mucous membrane, and this water cannot be recovered. Experiments have shown that absorption of pure distilled water from the stomach is practically nil.

Saline solutions, however, are absorbed from the stomach in appreciable degree when in comparatively high concentration. Howell writes of sodium iodid solution that "Not until its solutions reach a concentration of 3 per cent. or more does its absorption become important." Experiments have shown that solutions of strychnin are absorbed from a Pawlow's stomach of a dog, precluding the possibility that the solutions were passed into the intestine before absorp-

tion. Sugars are likewise absorbed, particularly in concentrated form, according to a number of authors. Aminoacids are absorbed from the stomach; Folin found that glycocoll, alanin and urea is also absorbed. The question of the absorption of fat by the stomach has been affirmed and denied.

Dr. Ivy, working in the laboratory of the University of Chicago, found no evidence in his work or in the literature that distilled water as such is absorbed by the stomach. Regarding its rate of evacuation, Dr. Ivy has written an article on "Studies on Water Drinking" in the *American Journal of Physiology*, July, 1918 (volume 46, No. 4, p. 429). As judged from his own series of experiments on this point, he concludes that "the emptying of water from the normal stomach varies, conservatively, from 400 c.c. to 100 c.c. in fifteen minutes." It is a fact, as verified by Dr. Ivy that the greater the amount of fluid, the more rapidly does it leave the stomach.

So far as known, no one has worked with solutions of quinin. It is possible that they are absorbed slightly, just as are other diluted solutions. It is more probable, however, that they are passed into the intestine and that the real absorption occurs in that viscus.

LICENSURE OF DISCHARGED MEDICAL OFFICERS

To the Editor:—It has been rumored that some state licensing boards will register discharged medical officers of the United States Army without further examination. A statement of the facts will be appreciated. C. W. A.

ANSWER.—The laws in seven states—Alabama, California, Colorado, Illinois, North Dakota, Virginia, West Virginia—and in Porto Rico authorize the licensing boards in their discretion to register, without further examination, retired medical officers of the United States Army, Navy and Public Health Service, if, in their opinion, those candidates have undergone a test of their educational qualifications fully equal to that required in the respective states. The secretaries of the several state boards have written that this arrangement does not apply to the civilian physicians who entered the government services during the recent war emergency, since the latter were not required to undergo the severe tests applied to the regular officers of the services named. Attention is called, however, to the liberal provision made by most of these states for registration by reciprocity. —[Full information in regard to reciprocity in all states is contained in a book entitled "Laws and Board Rulings." A copy of this book will be sent to any address on receipt of 50 cents.]

GATHERING INFLUENZA STATISTICS

To the Editor:—In one of the Journals which I have read this year I recall a note regarding a department or bureau of statistics, either in Chicago or Washington, devoted to compilation of data relative to influenza and related respiratory conditions during the epidemic from August, 1918, to May, 1919. Will you kindly inform me where I can get such statistics? F. S. MINNS, M.D., Toronto, Can.

ANSWER.—A joint committee was created in February, 1919, for the purpose of studying the epidemic and gathering statistics. The members of the committee are: Dr. William H. Davis, Bureau of the Census, Washington, D. C., chairman; Mr. C. S. Sloane, representing the Bureau of the Census; Dr. Wade H. Frost and Mr. Edgar Sydenstricker of the Public Health Service; Col. D. C. Howard, Col. F. F. Russell and Lieut.-Col. A. G. Love, U. S. Army; Lieut.-Com. J. R. Phelps and Surg. Carroll Fox, U. S. Navy.

INTERCOSTAL PAIN FOLLOWING HERPES ZOSTER

To the Editor:—Please tell me what can be done for a severe intercostal pain that has persisted for three years following herpes zoster. The patient states that the pain is as severe now as it was when the attack began. J. W. W., Chicago.

ANSWER.—The possibility of spinal tumor, caries or aneurysm should be borne in mind in these cases. The treatment of this intercostal pain, a common sequence of herpes zoster, should be directed in view of the diagnostic findings. The neurotic factor is often present, requiring psychic treatment. Light blistering over the painful points may help. Local warmth and restriction of movement of the ribs by a bandage are often serviceable. Stretching the nerves and resection of the ribs has been done, but not always with success. Sometimes alcohol is injected subcutaneously over the painful points or as close to the nerve trunk as possible.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 8. Chairman, Dr. S. W. Welch, State Capitol, Montgomery.

ARIZONA: Phoenix, July 1. Sec., Dr. Allen H. Williams, 219 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 23-26. Sec., Dr. Charles B. Pinkham, 904 Forum Bldg., Sacramento.

COLORADO: Denver, July 2. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: New Haven, July 8-9. Sec., Regular Bd., Dr. Charles A. Tuttle, 176 York St., New Haven; Sec., Homeopathic Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven; Sec., Eclectic Bd., Dr. James E. Hair, 730 State St., Bridgeport.

DELAWARE: Wilmington, June 17-19. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 8-10. Sec., Dr. E. P. Copeland, The Rockingham, Washington.

FLORIDA: Jacksonville, June 16-17. Sec., Dr. W. M. Rowlett, Citizens Bank Bldg., Tampa.

FLORIDA: Eclectic Board, Jacksonville, June 9-10. Sec., Dr. G. A. Munch, 1306 Franklin St., Tampa.

GEORGIA: Atlanta and Augusta, June 5-6. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 16-19. Supt. of Registration, Mr. F. C. Dodds, Springfield, Ill.

IOWA: Iowa City, June 12-14. Sec., Dr. Clifford H. Sumner, Capitol Bldg., Des Moines.

KANSAS: Topeka, June 17. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, July 1-3. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, July 1-3. Sec., Dr. E. W. Mahler, 141 Elk Place, New Orleans.

MAINE: Augusta, July 1-2. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MARYLAND: Baltimore, June 18-21. Sec., Dr. J. McP. Scott, Hagerstown.

MASSACHUSETTS: Boston, July 8-10. Sec., Dr. Walter P. Bowers, State House, Boston.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 3-6. Sec., Dr. T. S. McDavitt, 741 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 24-25. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 9-11. Sec., Dr. George H. Jones, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Philadelphia, June 2-7. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 30-July 2. Sec., Dr. H. J. Lehnhoff, 514 First National Bank, Lincoln.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Alex. MacAlister, 438 E. State St., Trenton.

NEW MEXICO: Santa Fe, July 14. Sec., Dr. R. E. McBride, Las Cruces.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 24-27, Mr. George M. Wiley, director, Exam. and Inspections Div., State Edu. Bldg., Albany.

NORTH CAROLINA: Raleigh, June 23. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OHIO: Columbus, June 3-6. Sec., Dr. H. M. Platter, State House, Columbus.

OKLAHOMA: Oklahoma City, July 8-9. Sec., Dr. J. J. Williams, Weatherford.

OREGON: Portland, July 1-3. Sec., Dr. Frank W. Wood, 559 Morgan Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 8-10. Sec., Nathan C. Schaeffer, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 10-11. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

SOUTH DAKOTA: Deadwood, July 8. Sec., Dr. P. B. Jenkins, Waubay.

TENNESSEE: Knoxville, Memphis and Nashville, June 13-14. Sec., Dr. A. B. Leach, Exchange Bldg., Memphis.

TEXAS: Austin, June 24-26. Sec., Dr. M. F. Bettencourt, Mart.

UTAH: Salt Lake City, July 7-8. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

VERMONT: Burlington, June 26-28. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 215 S. Jefferson St., Roanoke.

WASHINGTON: Seattle, July 1-3. Sec., Dr. C. N. Suttner, 415 Old National Bank Bldg., Spokane.

WEST VIRGINIA: Huntington, July 8-10. Sec., Dr. S. L. Jepson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Dodd, 220 E. 2nd. St., Ashland.

WYOMING: Cheyenne, June 23-25. Sec., Dr. H. E. McCollum, Laramie.

New Hampshire March Examination

Dr. Charles Duncan, secretary of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, March 13-14, 1919. The examination covered 9 subjects and included 80 questions. An average of 75 per cent. was required to pass. Four candidates were

examined, all of whom passed. Three candidates were licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Boston University		(1918)	78
Harvard University		(1919)	81
Tufts College Medical School		(1919)	82
University of Pennsylvania		(1918)	85

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Boston University		(1917)	Mass.
University of Vermont		(1883) (1898)	Vermont

District of Columbia April Examination

Dr. Edgar P. Copeland, secretary of the Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, April 8-10, 1919. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 9 candidates examined, 8 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Georgetown University		(1916)	85.2
George Washington University		(1911) 84.2; (1918)	92.5
Howard University		(1916)	77.8
Bowdoin Medical School		(1918)	76.6
Johns Hopkins University		(1913) 91.7; (1918)	91.7
McGill University		(1910)	85.7
	FAILED		
Chicago Hospital College of Medicine		(1918)	63.6

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Medical College of Virginia		(1912)	W. Virginia

Oregon January Examination

Dr. Frank W. Wood, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, Jan. 7, 1919. The examination covered 11 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the 17 candidates examined, 14, including 2 osteopaths, passed, and 3 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University		(1907)	80.9
Kansas Medical College		(1897)	79.1
University of Minnesota		(1895)	82.9
John A. Creighton Medical College		(1902)	79.7
Albany Medical College		(1899)	80.1
University of Oregon (1918) 80.1, 83.1, 84.2, 85.4, 88.1, 90.1.			
Jefferson Medical College		(1916)	82.6
	FAILED		
Hospital College of Medicine		(1824)	66.2
Missouri Medical College		(1895)	68.3
Gate City Medical College*		(1908)	71

* Official reports state that recognition was withdrawn from this school by the Texas State Board of Medical Examiners in November, 1907; that the dean, Dr. J. W. Decker, was caught selling diplomas in 1911, and was convicted and sentenced to fifteen months' imprisonment.

Rarity of Trachoma in Guatemala.—R. P. Luna states that for twelve years he has been seeking trachoma in his service of ophthalmology at the general hospital in Guatemala, and he has never found a case except imported ones. His communication on the subject, published in the *Juventud Medica* of Guatemala **18**:13, 1918, relates that certain persons deported from North American ports on account of trachoma proved to have merely a simple conjunctivitis which healed readily under ordinary measures. Grayish-whitish scar lines, granulations and pannus are unmistakable when encountered together, but the differential diagnosis in other stages of trachoma is often extremely difficult. Guatemala seems to be one of the favored countries which escape the disease, and where it does not spread when imported, not even to the wife, children or servants. On the other hand, Guatemalans may contract the disease in other lands; the individual and collective immunity seems to be peculiar to the country itself.

Book Notices

A TEXTBOOK OF PATHOLOGY WITH A FINAL SECTION ON POST-MORTEM EXAMINATIONS AND THE METHODS OF PRESERVING AND EXAMINING DISEASED TISSUES. By Francis Delafield, M.D., LL.D., and T. Mitchell Prudden, M.D., LL.D., Emeritus Professor of Pathology, College of Physicians and Surgeons, Columbia University. Eleventh edition. Revised by Francis Carter Wood, M.D., Director of the Pathological Department, St. Luke's Hospital, New York. Cloth. Price, $7.50. Pp. 1354, with 824 illustrations. New York: William Wood & Co., 1919.

Dr. Wood has made a very thorough and careful revision of Delafield and Prudden's well known book, following as closely as possible the plan of previous editions. The many new references to recent literature, especially American, will prove helpful. The illustrations, many of them new, are, almost without exception, highly satisfactory; indeed, only a few, as, for instance, Figure 566, pertaining to tuberculous nephritis, need be replaced by better ones. Figure 462, illustrating gelatinous carcinoma of the stomach, does not seem quite clear enough and should not, as it is now, be referred to as showing, in the strict sense, diffuse infiltrating carcinoma of the stomach. A few minor mistakes have been noted, as, for instance, on page 178—"much experimental data has been brought forward." The rule that the scientific names of bacteria shall be binomial is disregarded in some cases; fusiform bacilli probably merit a little more attention than they have received, and there is no reference to them in the index. No reference is made to recent American articles on hemorrhage into the suprarenals. This book deservedly still holds its place as a standard textbook for students and practitioners.

TUBERCULOSIS OF THE LYMPHATIC SYSTEM. By Walter Bradford Metcalf, M.D., Associate in Clinical Medicine, University of Illinois. Cloth. Price, $2.75. Pp. 216, with illustrations. New York: The Macmillan Company, 1919.

This book is written in a rather fluent style and is devoted largely to a random, and, not infrequently, second-hand review of the literature bearing on the subject of tuberculosis of the lymphatic system. It does not deal with the results of any investigative work on the part of the author except so far as it summarizes his experience in the treatment of lymphatic tuberculosis with tuberculin. The influence an attack of measles may have on the tuberculin reaction is not stated correctly, and no mention is made of the fact that the reaction may be suspended on account of measles. The word toxin is used rather loosely.

In the earlier chapters the capitalization is sometimes rather freaky, quite a few of the names of authors quoted are misspelled, and the references are given in a most haphazard sort of a way. While there are many defects the parts dealing with diagnosis and treatment are creditable and reveal good sense and sound judgment.

DIAGNOSTIC CLINIQUE: EXAMENS ET SYMPTOMES. Par le Dr. Martinet. Paper. Price, 30 francs. Pp. 912, with 783 illustrations. Paris: Masson et Cie, 1919.

From the beginning of the new diagnostic science, most significant of which was Laennec's invention and use of the stethoscope a century ago, the French have contributed their share to the art of making clinical diagnosis more thorough, more accurate and more useful. The plan of Dr. Martinet's book is simple, his aim having been to meet as fully as possible the needs of the average practitioner. He presents in detail the two steps that enter into diagnosis: the collection of signs and symptoms by means of the clinical history and the examination, and the coordination of the data obtained so that the character of the disease may be inferred. The complete diagnosis is for him the sum of four partial diagnoses: clinical or syndromatic, lesional or anatomic, functional or physiologic, and causal or etiologic. The book is divided into three parts. In the first, entitled "Généralités," the author discusses the characteristics of a good diagnosis and the errors that may occur. He also reviews rather succinctly the nosologies in favor at various periods, ending with the etiologic classification proposed in 1905 by Lancereaux and Paulesco. A chapter is devoted to errors in diag-

nosis and their causes which he apportions among ignorance, deficient examinations and errors of judgment. The second part called "Techniques," is divided into three headings: special; general which includes parasitology and bacteriology; and anthropometry. In the first subdivision the various systems of the body are considered separately. In the third part the methodical organization of data is considered and principles established to assist in medical examinations in ordinary calls, in consultation, and in special consultations. Symptoms are discussed, and grouped into practical and suggestive tables. The book has 783 illustrations, a number of which are in colors, many new and some so well designed that a glance suffices to give an understanding of the technic they represent. The descriptions are written in a clear style and free from all unessential details. An English translation of this unusual book on diagnosis should prove worth while.

Medicolegal

Prosecution for Advertising as a Physician

(State v. Kaatz (Vt.), 104 Atl. R. 873)

The Supreme Court of Vermont finds no error in this case, where the respondent was prosecuted for, and convicted of, advertising and holding himself out to the public as a physician and surgeon without being licensed as required by law. The court says that he demurred to the information, and, on his demurrer being overruled, moved to have the case sent to the supreme court before final trial, which motion was also overruled, to which action he excepted. The case was then tried by jury, and a verdict of guilty was found, and the case came to the supreme court on the exceptions to the overruling of the demurrer and motion. The only ground of demurrer stated in his brief was that the information did not specifically charge him with having "practiced medicine without a license." But the prosecution was not for practicing medicine contrary to law, and it was unnecessary to allege that he practiced medicine without a license, and the information was not subject to demurrer for failure to so allege. As to his exception to the refusal of the trial court to pass the case to the supreme court before final trial, no authorities were cited in his brief supporting this exception, and none, the supreme court thinks, can be found. It was a matter wholly within the discretion of the trial court, and being within the discretion of the trial court, and it not appearing that that discretion had been abused, it was not reviewable by the supreme court, the judgment of which is that there was no error, and that the respondent take nothing by his exceptions; let execution be done.

Loss of Use Considered Equivalent to Loss of Eye

(Smith v. F. & B. Construction Co. et al. (N. Y.), 172 N. Y. Supp. 581)
(Hobertis v. Columbia Shirt Co., Inc., et al. (N. Y.), 173 N. Y. Supp. 606)

The Supreme Court of New York, Appellate Division, Third Department, in the Smith case affirms an award by the state industrial commission of compensation under the workmen's compensation law for the "permanent loss of use of the right eye considered as the equivalent of the loss of such eye," where it appeared that with the use of powerful glasses the claimant had a vision of about one third with that eye, but that in order to obtain it he must close the other eye; that in any event he could have only one eye, and if he used the injured eye he had the vision of but one third of an eye. The court distinguishes the case from one in which by the use of glasses the claimant had the normal vision of the nijured eye, while, without glasses, he had the vision of but one eye, and with the use of glasses had the normal vision of the other eye only; in any event, had the full vision of one eye, and could use either eye at pleasure.

In the Hobertis case, the same court affirms an award of the state industrial commission for the permanent loss of the use of an eye, where the claimant was nearsighted, having not to exceed 50 per cent. vision, and lost the use of an eye, and it was contended that she should be allowed for the loss of half-vision only. The court says that the statute does not provide that the loss of the use of an eye shall be compensated by an award based on the amount of vision which existed previous to the accident, whether it be 50 per cent. or 80 per cent. of vision lost. It awards specific compensation for the loss of an eye. It is matter of common knowledge that very few persons have complete and perfect vision. The claimant was working with defective vision. So far as appeared, her work was entirely satisfactory to her employer, at least so far as the wages she received. The wages received by her must be considered her wage-earning capacity with defective vision. She lost the use of her eye, such as she had, and was entitled to compensation therefor, based on her earning capacity.

No Proof of Registration

(Reum v. State (Tex.), 206 S. W. R. 523)

The Court of Criminal Appeals of Texas reverses a conviction of defendant Reum, and remands the case, because the trial court instructed the jury that in this case it did not devolve on the state to prove that the defendant did not have a license or diploma, with verification of same, and did not have same registered, and the prosecution introduced no proof at all showing or tending to show that the defendant had not registered in the district clerk's office, as required by the statute, her authority to practice medicine. For this error the case must be reversed. But the court did not err in excluding the testimony of the district clerk, offered by the defendant, and the record in his office in the register of physicians and surgeons showing certain entries made in February, 1900, under an old law that was then in force, as the law under which those entries were made has long since been repealed, and the statute under which this prosecution was based prescribed an entirely different record and registration.

Rights Not Lost by Efforts to Save Finger

(Enterprise Fence & Foundry Co. v. Majors (Ind.), 121 N. E. R. 6)

The Appellate Court of Indiana, Division No. 2, says that the injury suffered by plaintiff Majors, while in the employ of the defendant company, consisted of a twist and laceration of the index finger of the right hand. The industrial board found that at the time of the injury the attending surgeon employed by the company at first advised the amputation of the index finger, but the plaintiff remonstrated and insisted that the finger should be saved if possible, and, in response to his objection, the attending physician advised that he had saved fingers as badly injured as that one, and it was agreed to make an effort to save the finger. The finger was treated for about a month or a little more, in an endeavor to save it, but an infection developed which involved practically the whole of the hand, and made necessary the amputation of the index finger, which was amputated at the middle joint. The infection developed because of the delay in amputation. An award was agreed on for the loss of the index finger; but the plaintiff subsequently asked for additional compensation because the second and ring fingers of his right hand were left stiff and permanently injured. This was opposed by the company on the ground that the plaintiff could not recover compensation for a permanent injury to his hand, when the permanent injury was due to his refusal to permit the attending surgeon to perform a surgical operation not of itself dangerous or attended with extraordinary suffering, which, if it had been performed when it was advised, would have prevented infection and saved the permanent impairment complained of. The court agrees that the law seems to be well settled that an injured employee seeking compensation must submit to an operation which will cure him when so advised by his attending physician, when not attended with danger to life or health or extraordinary suffering, and, if as a result of a refusal on his part he suffers

a permanent impairment, the employer will not be required to compensate him for the resulting permanent impairment. But the court considers that the plaintiff's insistence that his finger be saved if possible, when taken with the statement made by the surgeon; was not such unreasonable or wilful misconduct as would prejudice the allowance of additional compensation. In other words, the court is satisfied, under all the evidence, that the industrial board was justified in reaching the conclusion that the plaintiff's second and ring fingers had become in part permanently impaired after the agreed award for the loss of the index finger, and it was warranted in granting an additional award for the partial permanent injury to the second and ring fingers, which were left stiff owing to an infection.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 9-13.

American Academy of Medicine, Atlantic City, June 9-10.
American Association of Anesthetists, Atlantic City, June 9-10.
Am. Assn. of Genito-Urinary Surgeons, Atlantic City, June 16-17.
Am. Assn. of Indust. Physicians and Surgeons, Atlantic City, June 9.
Am. Assn. of Pathologists & Bacteriologists, Atlantic City, June 16-17.
American Association of Physicians, Atlantic City, June 16-17.
American Climatological & Clin. Assn., Atlantic City, June 14-17.
American Dermatological Association, Atlantic City, June 16-18.
American Gastro-Enterological Assn., Atlantic City, June 9-10.
American Gynecological Society, Atlantic City, June 14.
American Medico-Psychological Assn., Philadelphia, June 18-20.
American Neurological Association, Atlantic City, June 16-18.
American Ophthalmological Society, Atlantic City, June 16-17.
American Orthopedic Association, Atlantic City, June 16-17.
American Otological Society, Atlantic City, June 16-17.
American Pediatric Society, Atlantic City, June 16-18.
American Proctologic Society, Atlantic City, June 7-9.
American Psychopathological Association, Atlantic City, June 19.
American Society of Tropical Medicine, Atlantic City, June 16-17.
American Surgical Association, Atlantic City, June 16-18.
American Therapeutic Society, Atlantic City, June 6-7.
Arizona Medical Association, Globe, June 2-3.
Assn. of American Peroral Endoscopists, Brooklyn, June 5.
Assn. for the Study of Internal Secretions, Atlantic City, June 9.
Congress American Phys. & Surgs. of N. A., Atlantic City, June 16-17.
Maine Medical Association, Portland, June 18-19.
Massachusetts Medical Society, Boston, June 3-4.
National Assn. for Study of Epilepsy, Sonyea, N. Y., June 6-7.
National Tuberculosis Association, Atlantic City, June 12-14.
Nevada State Medical Association, Lake Tahoe, June 20-21.
New Jersey Medical Society, Spring Lake, June 24-25.
North Dakota State Medical Association, Grand Forks, June 24-25.
Rhode Island Medical Society, Providence, June 5.
Southern Minnesota Medical Assn., Rochester, June 23-24.
Western Roentgen Society, Cleveland, June 5-6.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Thirteenth Annual Meeting, held at Syracuse, May 6-8, 1919

(*Concluded from page 1567*)

Diagnostic Methods in Anemias

DR. A. H. SANFORD, Rochester: Besides the findings of the ordinary blood examinations, and the clinical history, the following methods are helpful in arriving at a diagnosis: (1) analysis of gastric contents by means of the Ewald test meal with subsequent radiographic examination of the stomach; (2) a careful neurologic examination and examination of the eyegrounds; (3) tests for fragility of the erythrocytes; (4) detection of evidences of blood destruction by determinations for urobilin and urobilinogen in the stool, or preferably in the duodenal contents (Schneider's method); (5) serologic tests for syphilis; (6) examination of stools for parasites; (7) inspection of the mouth, especially the tongue, and a thorough examination of the teeth and tonsils. The possibility of chronic sepsis originating here, and of foci of infection in other parts of the body should have general consideration.

Postoperative Shock Hemorrhage and Cardiac Dilatation

DR. JOHN OSBORN POLAK, Brooklyn: The preoperative index of a woman's cardiac strength is the pulse pressure. It makes no difference, so far as the operative prognosis is concerned, whether the systolic blood pressure is 105 or 160 mm. so long as the diastolic pressure is not within 30 mm. of the systolic. In other words, provided the metabolism is near the normal, the pulse pressure of the individual is the index of cardiac strength, no matter what her systolic blood pressure may be. The only exception is the very high pulse pressure in aortic regurgitation. The hemoglobin and leukocyte count are the next important factors for preoperative determination, and the blood coagulation time is also of considerable significance. These observations, together with kidney function tests, are made as a preoperative routine. This gives the woman her greatest margin of safety and affords the surgeon a basis for his differential diagnosis in postoperative conditions. There is a constant rise of from five to fifteen points in the hemoglobin readings following anesthesia with ether when such anesthesia occupies more than thirty minutes. Consequently, allowance must be made for this rise in using hemoglobin estimations as a diagnostic sign in internal bleeding. The erythrocyte count is also increased, but its variation from the preoperative count is very slight. In the majority of cases there is a moderate fall in both the systolic and diastolic blood pressure following ether anesthesia. The blood pressure returns to the preoperative reading in from twelve to forty-eight hours. The inhalation of oxygen after the withdrawal of the ether vapor diminishes this fall in blood pressure, but is only transient in its effect. In cases of shock, especially when much blood has been lost during the operation, the fall in blood pressure is greater than after long operation without blood loss, being from 10 to 50 mm. The pulse pressure is a better index of hemorrhage or cardiac failure than is the systolic pressure. There is a constant rise in the leukocyte count in hemorrhage, while the leukocyte count falls in shock.

The Doctor and the Changing Order

DR. GEORGE B. VINCENT, President of the Rochefeller Foundation: The medical profession should prepare to adapt itself to the changing social conditions. The doctor faces an entirely new situation from that of ten years ago. New knowledge and new discoveries have accumulated so rapidly that it is impossible for any one man to keep up with them. Specialism is the only solution. The physician is becoming less and less able independently to perform his work efficiently. The cooperative clinic is already being operated successfully. A maternity clinic in Boston is so conducted that the mother receives prenatal care, medical service at the time of the birth of the child and after-care, all for an inclusive fee. There are also the infant welfare, tuberculosis and venereal clinics.

As to health insurance, there is a possibility of developing some plan that will protect the industrial population against pauperism and social dependence and which will preserve its dignity and enable it to maintain its status in the democracy. It will be necessary to learn to conform ourselves to new social ideals in order to perform our function to society and to be a part of the common life.

Research and Clerical Work.—For the most part among us the great prizes go to the man who works up through clerical rather than through expert lines. We must find some way to change this. The path of science must lead to the top, and at the top must still be science. To achieve this ideal, the scientist must show generosity toward colleagues and subordinates, an enthusiastic recognition of their merit and an abnegation of self-aggrandizement, no less than skill in plan and energy in execution. It is essential also that he should develop methods for conserving time and strength by assigning clerical work to clerks instead of becoming a clerk himself, in order that he may keep mind and desk clear for the really important things.—Yandell Henderson: The Physiology of the Aviator, *Science*, May 9, 1919.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, New York

May, 1919, 79, No. 497

*Problem of the Cystocele. G. G. Ward, Jr., New York.—p. 15.
Gastropexy. Report of Cases. D. Bissell, New York.—p. 613.
*End Results of Resection of Fallopian Tubes. E. A. Bullard, New York.—p. 643.
Clinical Significance of Inertia Developing Late in Labor. P. T. Harper. Albany.—p. 649.
Pregnancy in a Case of Improved Sporadic Cretinism. W. E. Welz. Detroit.—p. 655.
Case of Multiple Fibromyomata of Broad Ligament, with Secondary Cystic Degeneration. O. McNeile, Los Angeles.—p. 657.
Recent Developments in Obstetrics. F. R. Oastler, New York.—p. 659.
Unsolved Problems in Gynecology. W. P. Graves, Boston.—p. 666.

Problem of the Cystocele.—In all cases of cystocele complicated with prolapsus uteri sufficient to have an associated retroversion, Ward believes that shortening of the utero-sacral and round ligaments is necessary in addition to other procedures. He describes the technic which he has adopted. He combines the principles of several operations. His technic is a combination of the methods of Hadra, Goffe, Martin and Frank, Alexandroff and Sims, with the result of reducing the hernia, replacement of its supports by overcorrection, overcoming the excess of bladder base and vaginal wall both anteroposteriorly as well as transversely, with a restoration of the anterior invagination of the uterus. The operation is termed a cystopexy.

End Results of Resection of Fallopian Tubes.—Of forty-four patients whose cases were analyzed by Bullard, twenty-one have been entirely relieved of symptoms. Twenty cases have been total failures or only partially successful. Only three women have become pregnant.

American Journal of Roentgenology, New York

April, 1919, 6, No. 4

Lung Abscess and Bronchiectasis: Clinical and Roentgenologic Study of One Hundred Cases. H. Wessler, New York.—p. 161.
Radiator Type of Tube. W. D. Coolidge, Schenectady.—p. 175.
Roentgen-Ray Evidence Related to Etiology of Carcinoma. C. L. Martin, Boston.—p. 180.
*Localization of Foreign Bodies at the Front. C. A. Waters.—p. 188.
Case Showing Air Within Cranial Cavity. R. J. May, Cleveland.—p. 190.
Esophago-Tracheal Fistula; Case Probably Due to Syphilis, Complicated with Pulsion Diverticulum. I. Gerber, Providence.—p. 191.

Localization of Foreign Bodies at the Front.—The "nearest point" method of localization described by Waters was used at the French Evacuation Hospital at Vasseny, France, near the Chemin-des-Dames. This is a palpation method, carried out under fluoroscopic observation, of the soft tissues in the region of the projectile. The palpation of the soft tissues is done with a wooden stick about 10 inches long with a metal screw or tack inserted into each end. This is known as the palpating or "joy" stick. Under the screen the nearly transparent wood can be seen only faintly, while the sharp contrasted shadow caused by the metal screws is plainly visible. The purpose of palpating the soft tissues with this instrument is to determine whether the foreign body can be moved, and how much. By exerting light and deep pressure on the soft tissues with the stick it is possible to determine with fair accuracy the depth at which the projectile lies under the point on the skin surface where the pressure is made. By holding one end of the stick against the skin surface and shifting the tube from side to side, the simple parallax method can be combined, which often helps a great deal in cases where the projectile is embedded in the bone or has entered the joint. Generally speaking a projectile, in the soft tissues, which yields movement by light pressure exerted on the palpating stick, would lie about 2 or 3 centimeters under the skin. If deep palpation is necessary in order to produce movement of the projectile, the projectile lies about 4 to 5 centimeters under the skin. The nearest point method is most applicable to localization of projectiles in the soft tissues of the extremities, the axilla and triangles of the neck, particularly, and also the scrotum and buttocks. In cases where foreign bodies are located in the cranium, chest and abdominal cavities, the nearest point method has its least use. However, in combination with the parallax method used in bones and joints, it will still give the most accurate and quickest evidence in the localization of the projectile.

Boston Medical and Surgical Journal

May 15, 1919, 180, No. 20

Case of Back Strain Causing Acute Retention of Urine; Diagnosis and Treatment of Lesions of Lower Region of Spine. H. W. Marshall, Boston.—p. 14.
Flat Feet and Leg Muscle Strain, Related to Industry in Cause. D. V. Baker, Boston.—p. 554.
Postoperative Analgesia. B. Van Hoosen, Chicago.—p. 556.
Vasodilators in Intravenous Treatment of Syphilis with Arsphenamine. G. E. Barnes, Herkimer, N. Y.—p. 558.

California State Journal of Medicine, San Francisco

May, 1919, 17, No. 5

Red Cross Welfare Work in Paris, France. T. Coffey, Los Angeles.—p. 137.
*Endocrine Glands and Their Relation to Vasomotor Disturbances of Air Passages. G. Selfridge, San Francisco.—p. 139.
Influenza Epidemic in S. A. T. C., Los Angeles. G. H. Kress, Los Angeles.—p. 146.

Endocrine Glands and Their Relation to Vasomotor Disturbances of Air Passages, Hay-Fever and Asthma.—Among the twenty-six cases of vasomotor rhinitis seen by Selfridge, fourteen were found with signs of slight endocrine gland insufficiencies. No study was made of the remaining cases to determine the possibility of gland insufficiency. Of fifty-two cases of asthma, twenty-two gave signs of endocrine disturbances, six thyroid predominating, fifteen hypopituitary, one probably status lymphaticus. Gland disturbances in the other thirty cases were not searched for.

Endocrinology, Los Angeles

Jan.-Mar., 1919, 3, No. 9

*Corpus Luteum in Neurologic Practice. H. Climenko, New York.—p. 1.
*Testicular Hormone. H. Wheelon, St. Louis.—p. 16.
*Paroxysmal Nasal Hydrorrhea Due to Dysthyroidism of Syphilitic Origin. M. R. Castex, Buenos Aires.—p. 29.

Corpus Luteum in Neurologic Practice.—For purposes of control Climenko used corpus luteum in some male neurasthenic cases. It was also administered to patients suffering from organic nervous diseases, such as multiple sclerosis, and also in the early stages of dementia praecox. In all of these the drug was inert. Corpus luteum had no effect on the blood pressure of arteriosclerosis, neither in the male nor in the female. The best results were obtained in young females, poorer results in natural menopause and no results in surgical menopause. The hypodermic preparations did not give as good results as the drug given by mouth. Contrary to the Sajous statement, Climenko found that corpus luteum whenever efficient gives prompt results and large doses need not be employed. He found that 2 grains is as large a dose as one needs to use. Corpus luteum extract acts best when there is every reason to believe that the native corpus luteum is still present. The administration of the extract cannot replace the function of the native corpus luteum in pregnancy and probably also not in menstruation. When menstruation is discontinued by virtue of disturbance in the secretion of another gland, such as the pituitary, corpus luteum will not produce menstruation. Inasmuch as corpus luteum extract when effective produces almost always the same chain of phenomena, Climenko feels that it is reasonable to conclude that (*a*) corpus luteum has a specific action; (*b*) the administered extracts probably do not act as the native hormone; and (*c*) that the extract, in all probability, stimulates the native corpus luteum to function. The two contraindications to the use of corpus luteum are an abnormally low blood pressure and profuse and frequent menstruation.

Testicular Hormone.—That the proper development and functioning of the various organs of the body are dependent

on the correlating action of the internal secretion of the interstitial cells is the conclusion reached by Wheelon on the basis of his own observations and a review of the literature. Its presence makes possible normal somatic differentiation. Structural and functional changes of tissues result in alterations of nervous activity, such alterations occurring partly because of somatic alterations and their attended functional changes and partly because of a direct influence on the nervous structure proper. However, it is wrong to assume that the internal secretion of the gonads alone is sufficient to establish and maintain sexual characters, because the influence of the adrenals, thyroid, hypophysis and thymus on the development and maintenance of sex and sex characters cannot be ignored. However, these glands are found well developed in the two sexes while but a single specific primary genital gland is found in each sex. The action of the gonad hormone in the presence of normal endocrine glands and somatoplasm is necessary, therefore, to the development of true sex types.

Nasal Hydrorrhea.—No case similar to the one described by him has been found by Castex in the literature. A woman, aged 40, began to have outbreaks of rhinorrhea in paroxysmal form when about 28 years of age. The attacks occurred at relatively long intervals in the first years, but slowly and progressively became more frequent and acute. The patient was seized at any hour of the day or night, although there was a predilection for the morning and the evening. The attacks began with a sensation as of a sudden cold, with sneezing, followed by an abundant flow of albuminous liquid which lasted between half an hour and an hour. Topical applications, general treatments, dietetic and climatic therapeutics gave not the slightest relief, the attacks on the contrary becoming progressively more acute and frequent, until from one daily they reached in the last two years two or three crises per day lasting progressively longer, up to two and three hours each time. The intensity of the flow also increased and necessitated an average of fifty men's handkerchiefs for each attack. Exploration by Maranon's maneuver disclosed that she had a goiter, distinct, soft, scarcely perceptible to the touch at the level of the isthmus and left lobe, evident at the level of the right lobe, and still more evident throughout the gland.

Treatment was begun with thyroid preparations, and within a few days a favorable effect on the paroxysms of hydrorrhea was apparent. Thereafter the thyroid treatment was intensified. The hydrorrheic attacks became much less, but at the same time the phenomena of hyperthyroidism made their appearance, and their exacerbation was such that the treatment had to be interrupted. Close examination of the patient disclosed a slight anisodischorea and a soft systolic bruit in the aorta. These two elements, suggested the probability of the syphilitic origin of the dysthyroidism—especially since the husband of the patient had formerly had syphilis, treated deficiently, and most of the children showed a taint of hereditary dystrophic syphilis. A mixed antisyphilitic treatment was started, having recourse to the administration of iodin through the alimentary canal, and mercury, through intramuscular injections of 0.02 cgm. of biniodid per day for a month. At the end of a month's treatment, the attacks had almost entirely vanished, threatening only from time to time. The patient was allowed a rest from treatment for three months. The attacks were renewed during the third month. The mercurial treatment was resumed and kept up for three months. At the end of the first month the crises vanished and did not return either during the last two months of mercurial treatment or during the two months rest which have since elapsed.

Florida Medical Association Journal, St. Augustine and Jacksonville

April, 1919, **5**, No. 10

Eye Symptoms as Aid in General Diagnosis. E. R. Tuttle, Miami.—p. 177.
Psychology in Practice of Medicine. J. G. DuPuis, Lemon City, Fla.—p. 181.
The Visiting Nurse. C. L. Paine.

Illinois Medical Journal, Chicago

March, 1919, **35**, No. 3

How to Study a Heart Case and How to Treat it. C. T. Hood, Chicago.—p. 113. To be continued.
Tertiary Syphilis of Nose and Throat. S. Salinger, Chicago.—p. 126.
Shall we Develop Custody or Research for Cure and Prevention? One Cent for Research on Every Dollar for Custody. B. Holmes, Chicago.—p. 128.
Trachoma. C. Loeb, Chicago.—p. 133.
Tonsillar Hemorrhage. C. F. Yerger, Chicago.—p. 142.
Abdominal Pain. G. W. Green, Chicago.—p. 145.

April, 1919, **35**, No. 4

Is It Worth While to Study the Insanities by the Scientific Method? One Cent for Research for Every Dollar for Confinement. B. Holmes, Chicago.—p. 169.
Hypertrophic Periostitis with Subsequent Decalcification of Skull Areas. C. C. Rogers, Chicago.—p. 173.
Imperforations of Rectum and Anus. Treatment. J. R. Pennington, Chicago.—p. 176.
How to Study a Heart Case and How to Treat It. C. T. Hood, Chicago.—p. 179.
Public Health Administration in Illinois Under the New Civil Administrative Code. C. St. C. Drake, Springfield.—p. 183.
Case of Artificial Pneumothorax of Four Years Standing; Broncho-Pneumo-Necropsy. E. A. Gray, Chicago.—p. 188.
Hyperthyroidism. S. Kuh, Chicago.—p. 190.
Conditions Arising in Recent Influenza Epidemic which Simulated Acute Abdomen. R. W. McNealy, Great Lakes.—p. 192.
Use and Abuse of Pituitrin. A. E. Blount, Oak Park.—p. 194.
Syphilis of Rectum and Anus. C. J. Drueck, Chicago.—p. 197.

Journal of Bacteriology, Baltimore

March, 1919, **4**, No. 2

Agglutination. R. E. Buchanan, Ames, Ia.—p. 73.
Methods of Pure Culture Study; Committee Report. H. J. Conn, H. A. Harding, I. J. Kligler, W. D. Frost, M. J. Prucha and K. N. Atkins.—p. 107.
Bacterial Variations Induced by Changes in Composition of Culture Media. A. I. Dawson.—p. 133.
*Value of Cooked Meat Medium for Routine and Special Bacteriology. W. L. Holman, Pittsburgh.—p. 149.
Delayed Development of Colonies on Plates Seeded from Disinfected Sewage. W. S. Sturges, Jr., New Haven.—p. 157.
Methods for Isolation and Cultivation of Bacillus Putrificus and other Obligate Anaerobes. W. S. Sturges, Jr., and L. F. Rettger, New Haven.—p. 171.
Some Halophilic Bacteria. E. LeFevre and L. Round, Washington, D. C.—p. 177.
*Yeast Autolysate as Culture Medium for Bacteria. I. J. Kligler, New York.—p. 183.

Value of Cooked Meat Medium for Bacteria Study.—Holman contends that the cooked meat medium is the most useful medium for obtaining growth of both anaerobic and aerobic bacteria, for storing mixed cultures for later isolation as well as pure cultures for further investigations. It is a medium simply made which can be sterilized readily, and owing to its high buffer character is adaptable to the growth of a great variety of bacteria.

Yeast Autolysate as a Culture Medium for Bacteria.—Experiments made by Kligler, indicate that yeast permitted to undergo autolysis may serve as a cheap substitute for more expensive animal proteins or their digestioin products. The autolysate contains a high percentage of amino nitrogen and a relatively small amount of the higher nitrogen complexes. The fact that some bacteria, notably pneumococcus, meningococcus, etc., do not thrive as well in the yeast broth as they do in beef infusion media, would indicate that the higher nitrogen complexes—polypeptides, etc.—play some part in bacterial nutrition. On the whole, however, it seems that the yeast autolysate media are entirely satisfactory for the cultivation of the less delicate pathogenic bacteria. Endo and brilliant green plates made with this medium give entirely satisfactory results.

Journal of Biological Chemistry, Baltimore

May, 1919, **38**, No. 1

Metabolism of Furan and Hydrofuran Derivatives in Animal Organism. N. Suzuki, Kyoto Imperial University.—p. 1.
Behavior of Cinnamic Acid and its Derivatives in Animal Body. H. Ando, Kyoto Imperial University.—p. 7.
Biologic Observations on Formation of Phenol. M. Tsudji, Kyoto Imperial University.—p. 13.

*Physiology of Endogenous Uric Acid. H. F. Höst, University of Christiania and University of Copenhagen.—p. 17.
*Behavior of Inulin in Animal Body. Application of Benedict Method to Estimation of Levulose and Inulin. R. Okey, Urbana, Ill.—p. 33.
*Digestibility of Bacon. K. Blunt and M. G. Mallon, Chicago.—p. 43.
Colorimetric Determination of Hydrogen Ion Concentration in Small Quantities of Solution. A. R. C. Haas, Madison, Wis.—p. 49.
*Rapid Method for Estimation of Urea in Urine. J. B. Sumner, Ithaca, N. Y.—p. 57.
Lysine as a Hydrolytic Product of Hordein. C. O. Johns and A. J. Finks, Washington, D. C.—p. 63.
Gas Tensions in Tissues of Mouth. Y. Henderson, New Haven, and R. L. Stehle, Philadelphia.—p. 67.
*Gas Tensions of Abdominal Cavity, with Evidence on Diffusion of Gases within Body. H. W. Haggard and Y. Henderson, New Haven.—p. 71.
*System of Blood Analysis. O. Folin and H. Wu, Boston.—p. 81.
Determination of Urea in Urine by Direct Nesslerization. O. Folin and G. E. Youngburg, Boston.—p. 111.
Biologic Analysis of Pellagra-Producing Diets. E. V. McCollum, N. Simmonds and H. T. Parsons, Baltimore.—p. 113.
*Is Lactalbumin a Complete Protein for Growth? A. D. Emmett and G. O. Luros, Detroit.—p. 147.
Relative Abundance of Serum Proteins in Albino Rats at Different Ages. I. Toyama, Philadelphia.—p. 161.
*Acidosis: XIII. Method for Titrating the Bicarbonate Content of Plasma. D. D. Van Slyke, E. Stillman and G. E. Cullen. New York.—p. 167.
Effect of Hydrogen Ion Concentration on Liquefaction of Gelatin. H. E. Patten and A. J. Johnson, Washington, D. C.—p. 179.

Physiology of Endogenous Uric Acid.—The uric acid output of two normal individuals and fifteen other subjects who were convalescents and patients was studied by Höst. In none of the seventeen subjects was the uric acid output for twenty-four hours constant. But with a fixed diet and under similar conditions the uric acid output in a few subjects was constant, while in the majority of those examined it was extremely irregular and showed variations from day to day up to 80 per cent. But even in the individuals whose output of uric acid was most regular, the output was dependent on several factors, of which variations in the diet are the most important. In every increase or decrease of the caloric value of the food beyond a certain minimum, the uric acid output was always changed in the same direction. This took place whether the caloric value was varied by means of protein, fat or carbohydrate; the change in the uric acid output was, however, greater when the amount of calories was varied by means of protein rather than by nitrogen-free food elements. With a constant food caloric value the uric acid output depended to a certain extent on the food protein, so that a change in the latter beyond a certain minimum always produced a corresponding change in the uric acid output. The excretion of nitrogen and the hydrogen ion concentration of the urine were without influence on the endogenous uric acid output. On the other hand, increase of body temperature produced a considerable increase in the uric acid output. The endogenous uric acid output in twenty-four hours varied between 0.27 and 0.99 gm.; the last value is obtained in a normal person on an extensive bread diet. The amount of the endogenous uric acid in the blood varied to a great extent, the minimum being less than 0.50 gm., the maximum being 2.68 gm. per hundred c.c of blood, but is constant in the case of each individual within the limit of error of the method (10 per cent.). In 70 per cent. of the subjects the uric acid concentration is between 0.01 and 0.02 gm. per hundred c.c. of blood.

Inulin in Animal Body.—Benedict's modification of the Lewis-Benedict method was used successfully by Okey for the determination of levulose, and of levulose in the presence of inulin.

Digestibility of Bacon.—A very careful study was made by Blunt and Mallon as to the digestibility of bacon. The coefficient of digestibility of much and slightly cooked bacon fat was found to average 96.7 per cent., approximately the same as that for other soft fat and much higher than the 82.6 per cent. reported by Rubner for bacon eaten in large pieces (raw?). The nitrogen also was as well digested as that of other meat.

Rapid Method for Estimation of Urea in Urine.—The method described by Sumner consists in treating a small quantity of urine (1 c.c.) in a centrifuge tube with an approximately neutral phosphate solution and with urease. After the urea has been decomposed a protein precipitant is added, the tube centrifuged, and an aliquot of the clear supernatant liquid is Nesslerized and compared with a standard.

Gas Tensions of Abdominal Cavity.—The contribution made by Haggard and Henderson consists in the demonstration that the CO_2 tension of the abdominal air soon becomes equivalent to that of the pulmonary alveolar air and of the arterial blood, and that under abnormal conditions (experimental acidosis) in which it is not easy or safe to cause the rebreathing necessary to obtain an alveolar sample, the CO_2 tension in the abdominal air falls in close correspondence to the arterial CO_2 tension. Diffusion of oxygen through the tissues is much slower than in that of CO_2. The tension of oxygen in the abdominal air at equilibrium is about 45 mm. of mercury, much below that of either the arterial or venous blood and corresponding therefore probably to that of the tissues. When the air breathed contains carbon monoxid this gas appears in the abdominal air. The tension of ether vapor in the abdominal air during anesthesia is 29 mm. mercury.

System of Blood Analysis.—The main purpose of the research recorded by Folin and Wu has been to combine a number of different analytical procedures into a compact system of blood analysis, the starting point for which should be a protein free blood filtrate suitable for the largest possible number of different determinations.

Lactalbumin a Complete Protein for Growth.—Emmett and Luros claim that lactalbumin is a complete protein in the sense that it does not lack any of the nitrogenous cleavage products essential for growth. It can supplement a deficient growth-promoting protein (corn gluten) and, incorported as the sole protein in a ration containing lactose, it produces a normal rate of growth when present to the extent of only 10 per cent.

Studies of Acidosis.—The bicarbonate content of serum or oxalate plasma is determined by Van Slyke and his associates by adding an excess of standard acid (5 c.c. of 0.02 NHCl to 2 c.c. of plasma), removing the carbon dioxid by rotating the solution for one minute about the wall of a flask, and titrating back with 0.02 NNaOH to the original hydrogen ion concentration of blood (p_H 7.4) with neutral red as indicator.

Journal of General Physiology, Baltimore

May 20, 1919, **1**, No. 5

Selective Action of Nicotine on Central Nervous System of Squid, Loligo Pealii. A. R. Moore, Woods Hole, Mass.—p. 505.
*Experimental Production of Edema by Nephrectomy. W. W. Swingle, Princeton, N. J.—p. 509.
Antagonism Between Alkaloids and Salts in Relation to Permeability. W. J. V. Osterhout, Cambridge, Mass.—p. 515.
New Apparatus for Measuring Surface Tension. P. Lecomte du Nouy, New York.—p. 521.
Relation Between Metamorphosis and Other Developmental Phenomena in Amphibians. E. Uhlenhuth, New York.—p. 525.
Sensory Equilibrium and Dark Adaptation in Mya Arenaria. S. Hecht, Omaha.—p. 545.
Amphoteric Colloids, V. Influence of Valency of Anions Physical Properties of Gelatin. J. Loeb, New York.—p. 559.

Experimental Production of Edema by Nephrectomy.—The extirpation experiments recorded by Swingle show that any malfunctioning of the kidney, any block in its excretory canals, or complete loss of function, as for instance in nephrectomy, leads to an excessive accumulation of fluids in the lymph sinuses, tissues, and body cavity.

Journal of Industrial Hygiene, New York

May, 1919, **1**, No. 1

Industrial Medicine and Surgery; Development and Scope. H. E. Mock, Chicago.—p. 1.
Lead Poisoning in American Industry. A. Hamilton, Boston.—p. 8.
*Problem of Fatigue. R. A. Spaeth, Baltimore.—p. 22.
*Telephone Operating: Study of Its Medical Aspects with Statistics of Sickness Disability Reports. A. G. Richardson, Boston.—p. 54.

Problem of Fatigue.—The term "industrial fatigue" is at present loosely applied either to the daily and weekly weariness resulting from industrial work or to the condition of

accumulating fatigue which merges insensibly with psychoneuroses. It would seem more logical to Spaeth to restrict the term industrial fatigue to the former more popular meaning and designate the gradually accumulating fatigue in overdriven industrial workers as industrial psychoneurosis. A very extensive bibliography is appended to this article.

Medical Aspects of Telephone Operating.—This paper is based on nine years of service as industrial physician for a telephone company. Richardson discusses the effects of the work on the different parts of the body which may be subject to strain in telephone operating.

Laryngoscope, St. Louis

April, 1919, **29**, No. 4

Index-Medicus and Digest of Oto-Laryngology for 1918.

Medical Record, New York

May 10, 1919, **95**, No. 19

Evolution of Thoracic Surgery Within Past Fourteen Years. W. Meyer, New York.—p. 761.
Postoperative Thoracic Drainage. W. Meyer, New York.—p. 773.
Venereal Sore Peril. A. Strachstein, New York.—p. 775.
*Pathology of Epidemic Pneumonia in Camps and Cantonments in 1918. W. G. MacCallum, Baltimore.—p. 776.

May 17, 1919, **95**, No. 20

Memory; (The Mnemologic Phenomena) Relation to Intelligence, Pedagogics and Psychopathy. J. V. Haberman, New York.—p. 807.
Treatment of Fever. B. Robinson, New York.—p. 818.
Perisinus and Epidural Mastoid Abscess Subsequent to Influenza. Report of Five Cases. H. P. Blackwell, New York.—p. 819.
Case of Violent Reaction Following Antigonicoccus Vaccine. L. F. Herz, New York.—p. 820.
Rehabilitation in Canada. J. L. Biggar, Ottawa, Can.—p. 821.
Functional Reeducation of British Soldier. R. T. McKenzie, U. S. Army.—p. 827.
Functional Reeducation of French and American Soldier. W. G. Thompson, New York.—p. 829.

Pathology of Epidemic Pneumonia in Camps and Cantonments in 1918.—The forms of pneumonia caused by each organism and the modifications which result from the nature of the predisposing disease, the virulence of the bacteria, the resistance of the infected person and other less tangible factors are described by MacCallum. He emphasizes that the anatomic changes produced by this disease have not been seen by any one; at least they have not been recognized clearly, but every one has realized that the disease produced an extraordinary depression or lowering of the ordinary powers of resistance so that these persons were intensely predisposed to the invasion of any pathogenic bacteria which happened to prevail in their mouths and throats. Pneumonia, therefore, often followed immediately, and all who died showed the pneumonic changes in their lungs, changes which were exceptionally severe and rapidly fatal, on account of the unparalleled spread of the bacteria in the unresisting tissues. But the type of pneumonia was different according to the organism which happened to invade, and it was possible to recognize pneumococcal, streptococcal and staphylococcal forms of confluent lobular pneumonia and to distinguish them from each other and from the interstitial form caused by the bacillus of Pfeiffer. MacCallum says that stress must be laid on the epidemic character of the secondary invasion, which made it appear that in one camp nearly every case was a pneumococcal pneumonia, while in another almost every case was due to the influenza bacillus. It is not surprising that with the one-sided view obtained at first by those who observed these cases in one hospital only, there should have been announced the conviction that the bacillus of Pfeiffer was the cause of the primary disease as well as of the pneumonia. But broader experience has shown, it seems, that this prevalence of the influenza bacillus in some camps, as in those of the New England States, represented a local condition. In other places, pneumococci and streptococci were the opportune invaders, and we are still quite ignorant of the cause of the primary disease.

Michigan State Medical Society Journal, Grand Rapids

May, 1919, **18**, No. 5

Victory Number.

New York Medical Journal, New York City

May 17, 1919, **109**, No. 20

Lethargic Encephalitis. A. Gordon, Philadelphia.—p. 837.
Dominance of the Endocrines. W. V. P. Garretson, New York.—p. 839.
Maloney Method of Reeducation in Treatment of Chorea. M. Grossman, New York.—p. 842.
Physical Condition of Men of New York State Between Twenty-one and Thirty-one. I. W. Brewer, Watertown, N. Y.—p. 845.
Health Question of Man Next Door. A. B. Jackson, Philadelphia.—p. 847.
Postural Treatment of Proctocolitis, Based on Anatomy of Large Intestine. A. A. Landsman, New York.—p. 854.
Clinical Similarity Between Influenza Epidemic and Plague. A. Young, Hamburg, Pa.—p. 856.
An Anecdote of Sir Astley Cooper. W. R. Riddell, Toronto.—p. 857.
Prophylaxis and Treatment of Influenza. L. T. De M. Sajous, Philadelphia.—p. 858.

Oklahoma State Medical Assn. Journal, Muskogee

May, 1919, **12**, No. 5

Focal Infection in Relation to Diseases of Eye. T. W. Stallings, Tulsa.—p. 111.
Metastatic Infection. R. Grosshart, Tulsa.—p. 115.
Focal Infection. A. W. Figford, Tulsa.—p. 117.
*Tuberculosis in Children with Special Reference to Tracheobronchial Glands. L. J. Moorman, Oklahoma City.—p. 123.
Case Records. F. S. Clinton, Tulsa.—p. 129.

Tuberculosis in Children.—At the Oklahoma City Tuberculosis Dispensary 135 children were examined during 1918. Of these, 50 gave a history of exposure to open cases, 70 were exposed to suspected cases and 15 gave no history of exposure. One hundred and sixteen gave a history of measles, 50 had pneumonia, 34 had influenza and 86 gave a history of whooping cough. A history of the following symptoms was obtained: cough in 59 cases; expectoration in 29; pain in the chest in 24; pleurisy in fourteen; hemoptysis in 2; night sweats in 11; loss of flesh in 25; loss of strength in 34; hoarseness in 17; fever in 19; loss of appetite in 28; disturbed digestion in 27. Physical examination revealed the following: weight below standard, 73; height below standard, 17; general appearance good in 95, fair in 48, poor in 21. Type of chest normal in 121, abnormal in 14; superficial lymph nodes palpable in 110 (some were not reported); tonsils hypertrophied in 80, dulness elicited by percussion in 89 (with few exceptions the dulness was interscapular); D'Espine's sign was present in 35; râles in 29. Sixty-nine were examined roentgenographically and the roentgenogram showed tuberculosis of the tracheobronchial glands alone in 11 cases; tuberculosis of the tracheobronchial glands with peribronchial thickening in 29; tuberculosis of the tracheobronchial glands and peribronchial thickening, with involvement of the lung tissue in 19; nontuberculosis infection in 3. The diagnosis as recorded in the 135 cases was: tuberculosis of the hilus alone in 34; tuberculosis of the hilus with peribronchial and lung involvement in 44; doubtful, 40; cases with nontuberculous infection, 5; negative, 12.

United States Naval Medical Bulletin

April, 1919, **13**, No. 2

Pathology of Pneumonia Accompanying Influenza. E. W. Goodpasture, F. L. Burnett, U. S. N. R. F.—p. 177.
New War Methods in Amputations, Stumps and Prosthesis of Lower Limbs. R. G. LeConte, U. S. N. R. F.—p. 244.
Education and Sanitation Aboard Ship. W. S. Pugh, U. S. Navy.—p. 254.
Sanitary Drinking Fountain. D. S. Hillis, U. S. N. R. F.—p. 287.
Clinical Chart Made by a Rubber Stamp. J. J. Cancelmo, U. S. N. R. F.—p. 287.
System of Clinical Records. W. B. Grove, U. S. N. R. F.—p. 289.
Dressing for Wounds. C. W. C. Bunker, U. S. Navy.—p. 291.
Extensive Abdominal Wounds from a Hand Grenade. J. M. Emmett.—p. 293.
Case of Fracture of Intercondylar Spine of Tibia. G. G. Ross, U. S. N. R. F.—p. 294.
Case of Fracture of Pelvis. G. G. Ross, U. S. N. R. F.—p. 295.
Chronic Articular Rheumatism Cured by Removal of Diseased Appendix. R. H. Michels.—p. 296.
Case of Myeloid Leukemia. E. R. Rayn, U. S. Navy.—p. 297.
Pericardiotomy. L. R. G. Crandon, U. S. N. R. F.—p. 299.
Case of Keratosis Plantaris. J. M Perret, U. S. Navy.—p. 300.

Case of Influenza with Unusual Complications. F. G. Folken, U. S. Navy.—p. 301.
Removal of Wounded Men from U. S. S. Northern Pacific to U. S. S. Solace, January 3 and 4, 1919. E. H. H. Old, U. S. Navy.—p. 349.
Medical Department on Board a Torpedoed Transport. E. E. Curtis, U. S. Navy.—p. 351.
Influenza at U. S. Navy Hospital, Washington, D. C. R. M. Kennedy, U. S. Navy.—p. 355.
Post-Influenzal Pneumonia at U. S. Navy Hospital No. 4, Queenstown, Ireland. A. M. Burgess, U. S. Navy.—p. 356.
Epidemiologic Study of Diphtheria at U. S. Naval Academy. J. E. Houghton, U. S. Navy.—p. 359.
Study of Epidemic of Influenza at Pensacola. J. M. Perret, U. S. Navy.—p. 365.
Training Schools for Nurses in Haiti. L. D. Jordan, U. S. Navy.—p. 378.
Observations on Two Hundred Men Examined for Candidates for Listeners School. F. B. Galbraith, U. S. Navy.—p. 380.

West Virginia Medical Journal, Huntington

January, 1919, **12**, No. 7

Sanitary Management of Common Infections. S. L. Jepson, Charleston.—p. 245.
Medical Science and World War. A. Arkin, Morgantown.—p. 250. To be continued.
When You Have the "Flu." M. C. Kyle, Charleston.—p. 254.
Bureau of Venereal Diseases. F. F. Farnsworth, Charleston.—p. 255.
Pertussis Vaccine; Report of Cases. J. L. Miller, Thomas.—257.

February, 1919, **12**, No. 8

Medical Stewardship and Medical Therapy. R. A. Ashworth, Moundsworth.—p. 281.
Focal Points of Infection Producing Toxemia. H. H. Roberts, White Sulphur Springs.—p. 287.
Medical Science and World War. A. Arkin, Morgantown.—p. 295.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Tuberculosis, London

April, 1919, **13**, No. 2

Care of Advanced Consumptive. R. D. Powell and Others.—p. 4.
Care of Advanced Consumptive with Laryngeal Complications. H. Tilley.—p. 72.
*Bilateral Maximum Blood Pressure in Pulmonary Tuberculosis. R. J. Cyriax.—p. 73.
*National Scheme for Prevention and Treatment of Tuberculosis. H. G. Sutherland.—p. 77.

Bilateral Maximum Blood Pressure in Pulmonary Tuberculosis.—One hundred and sixty bilateral readings were taken by Cyriax from twelve patients hospitalized because of tuberculosis. Tubercle bacilli had been found in the sputum of every case; six patients had unilateral, and six bilateral disease; ninety-eight observations were made on the former, and sixty-two on the latter. The readings were taken with a Riva Rocci apparatus by the method of auscultation, the maximum pressures being checked in addition by palpation of the pulse. As a general rule the first reading was taken from each arm alternately. The vast majority of observations were made while the patients were actually in bed. Purely for the sake of convenience in description, the term "lesion pressure" has been adopted by Cyriax to denote the maximum pressure in the brachial artery of the arm on the diseased side, the term "standard pressure" to denote the corresponding pressure on the healthy side. Forty-seven of the ninety-eight observations made in unilateral cases of disease revealed differences of more than 5 mm. between these two pressures. In patients suffering from an acute spread of the disease, stained sputum or hemoptysis, the lesion pressure was found, as a rule, to be higher than the standard pressure, the difference between them amounting in some cases to 26 mm. This rise in the lesion pressure appeared to be solely an index of an acute process, and was not always associated with pyrexia; in some cases of stained sputum, it preceded the actual staining by some days. Subsequently, as the more acute stage passed off, or staining ceased, the lesion pressure was noticed to fall below the standard pressure. But the latter usually rose at the same time, and hence, when the observations were recorded graphically, the curves representing the two pressures were seen to cross. A rise in the lesion pressure above the standard pressure has thus been found, as a rule, to be an accompaniment of symptoms of activity; a fall, on the other hand, to be of favorable import. Thirty-five of the sixty-two observations made in bilateral cases of disease revealed differences of more than 5 mm. between the maximum pressures in the two arms. But the results were not very satisfactory probably because in cases of bilateral mischief both pressures were "lesion pressured," and changes in one were therefore apt to be marked by changes in the other. Nevertheless, the pressure variations were found to correspond fairly closely with those found in unilateral cases.

National Scheme for Prevention and Treatment of Tuberculosis.—At a conference called by the Tuberculosis Society of the United Kingdom in January, 1919, certain resolutions were adopted: That a special department of the ministry of health in each country be created for the prevention and treatment of tuberculosis. The department of tuberculosis thus constituted would be responsible for general administrative measures against tuberculosis throughout the countries concerned; for statistics relating to the disease; to suggest, advise, direct, and if necessary finance schemes of after-care and employment of tuberculous patients; to direct, to finance, and to supervise an educational program by means of lectures, traveling exhibitions, appropriate cinema films, and by any other means; to direct and to finance research work in relation to the disease; to study housing and conditions of work in relation to the incidence of tuberculosis, and to promote legislation dealing with this matter; deputy commissioners of tuberculosis appointed by the crown work under the direction of the commissioners. Tuberculosis officers should be appointed throughout the kingdom.

British Medical Journal, London

April 26, 1919, **2**, No. 3043

Practical Importance of Vitamines. G. Hopkins.—p. 507.
*Ten Thousand Recruits with Doubtful Heart Conditions. S. R. Wells.—p. 510. To be concluded.
Plea for Homogenous Nerve Graft. E. W. Fisher.—p. 514.
Hyperpyrexial Heatstroke. K. G. Hearne.—p. 516.
Stock Vaccine in Pneumonia. W. F. Haultain.—p. 517.
Health Resorts and the States. C. W. Buckley.—p. 517.

Doubtful Heart Conditions in Recruits.—Out of the 10,000 recruits examined, 307 were considered to be definite examples of aortic regurgitation. In many cases there was reason to believe that other lesions were present as well. In ninety-four cases only the aortic lesion was present; in fourteen cases aortic stenosis was associated with it; in 112 cases, both aortic and mitral regurgitation were present, and in thirty-three cases, aortic and mitral regurgitation and mitral stenosis existed. One hundred and sixty-two men gave a history of rheumatic fever and symptoms of aortic regurgitation, 145 aortic regurgitants gave no history of rheumatic fever, while 1,759 men had a history of rheumatic fever but no evidence of aortic regurgitation, and 7,934 gave no signs or history of either. Fifty-five gave a history of rheumatism, and twenty stated that they had had chorea. Sixty-six men gave a history of tonsillitis. Seventy-one gave a history of scarlet fever. Twenty-two gave a history of diphtheria. The proportion giving a history of pneumonia is not large; twenty men had had pneumonia and 142 gave a history of one or more attacks of influenza.

May 3, 1919, **2**, No. 3044

Disappointments after Gastroenterostomy. R. Hutchison.—p. 535.
Cerebrospinal Fever. H. Rolleston.—p. 636.
How to Read Statistics. A. S. Percival.—p. 540.
Pathogenesis of Deficiency Diseases; Pellagra. P. Rondoni.—p. 542.
*Doubtful Heart Conditions. S. R. Wells.—p. 544.

Doubtful Heart Conditions in Recruits.—The conclusion of this investigation leads Wells to believe that two important causes of aortic regurgitation in the cases we have investigated—that is to say, men between the ages of 18 and 41—were rheumatic fever and strain. The investigators were unable to find any definite correlation in these cases between syphilis, tonsillitis, scarlet fever, diphtheria, pneumonia, gonorrhea, or growing pains, and the evidence is against

influenza. With regard to chorea, there is a suggestion in some of the results that it may be a cause, but the number of cases investigated was so small, and the proportion of them giving a history of rheumatic fever as well so large, that caution must be exercised in drawing deductions. With regard to a history of "rheumatism," there is some evidence for assuming that in a certain proportion of these cases, but not all, an affection of the same nature as true rheumatic fever was referred to.

Lancet, London

April 19, 1919, **2**, No. 4990

Cerebrospinal Fever: A Review. H. Rolleston.—p. 25.
*Filarial Infection in Macedonia. J. G. Forbes.—p. 654.
Study of Epidemic "Spanish Influenza." E. Folley.—p. 656.
*Gas Gangrene, Due to Infection with Bacillus Tumefaciens. W. J. Wilson.—p. 657.

Filarial Infection in Macedonia.—Forbes reports two cases of *Filaria conjunctivae* (Addario) in man, with the first recorded discovery of the male worm. Records of six examples of human infection exist and in every case the solitary female worm, usually immature, only has been found. The two patients, one of whom had had 18 months' service in Macedonia, had not previously been out of England; the other a Serbian, came under treatment at the same general hospital attached to the Royal Serbian army. The male worm was found accidently in a lump, the size of a filbert nut, on the outer side of the upper part of the left forearm, which had been intermittently swollen for the previous two months. The nodule from which the worm had been removed was examined in the fresh state, but failed to show the presence of a second or female worm or evidence of microfilariae in the wall of the cystic interior. Examinations of the patient's blood were made on several occasions, both by day and night in fresh and stained films, but failed to show the presence of any microfilariae and gave no evidence of leukocytosis. The second patient had a tumor on the right side of the nose, which had given rise to inflammatory swelling of the face below the orbit for the previous two months. At operation a small cyst was removed and found to contain opaque glairy fluid and a delicate filiform worm. Blood film examinations of the patient on two separate occasions failed to show any microfilariae.

Gas Gangrene Due to Infection with Bacillus Tumefaciens.—A new pathogenic anaerobe was isolated by Wilson from a case of gas gangrene. Animal experiments confirmed the identity of the organism. The *B. tumefaciens* is an actively motile gram-positive bacillus. In morphologic characters it resembles the *Vibrion septique*, but it is easier to cultivate and forms spores, especially in carbohydrate media, with the utmost facility. It is essentially a saccharolytic bacillus and fails to digest either coagulated egg albumin or serum. In litmus milk it produces acid and gas. The clotted casein is not digested and remains red in color, i. e., there is no bleaching. Spores were found in the milk culture. The deep colonies in 0.1 per cent. glucose agar resemble those of the *V. septique*. In fermenting saccharose, inulin, and glycerine it resembles some strains of *B. welchii* and differs from *V. septique*, but resembles the latter in fermenting salicin. It is far more active in its action on sugars than the two strains of *B. oedematiens* with which Wilson compared it. In meat broth culture the fragments of muscle become pink in color and no digestion occurs. It hemolyses red blood cells.

April 26, 1919, **2**, No. 4991

*Influenza Epidemic. W. Russell.—p. 689.
*Experimental Studies with Small Doses of Roentgen Rays. S. Russ, H. Chambers, G. Scott, J. C. Mottram.—p. 692.
*Psychology of Internment. A. L. Vischer.—p. 696.
Gunshot Wounds and Other Affections of Chest. C. MacMahon.—p. 697.

Vaccine Treatment of Influenza.—The vaccine used by Russell was that manufactured by the Edinburgh Royal College of Physicians' Laboratory. There was no ill effect from its use, in fact, it seemed that the patient's general condition improved, that the intoxication seemed to be lessened or restrained. No patient has died to whom the vaccine has been given. Russell believes that in capable hands vaccine therapy seems to be the most promising line of treatment, if adopted as soon as definite respiratory signs appear, and if pushed with judgment.

Experimental Studies with Small Doses of Roentgen Rays.—Experimental facts as to the effects of small doses of roentgen rays on the blood of rats and on the susceptibility of these animals to tumor implantation (Jensen's rat sarcoma) are recorded by Russ and others. An attempt is made to show the possible bearing of the salient features of these newly acquired facts on the present day treatment of malignant disease by means of roentgen rays. Two suggestions are put forward in this connection. When a therapeutic dose is given to the cells of a tumor the rest of the body receives a fractional dose of the rays. It is submitted that the action of these rays, especially on the lymphocytes in the circulation, may be deterrent to the combative forces which the patient can normally bring to bear against the tumor growth. In the second place the possibility of increasing the resisting powers of the system by means of small doses of roentgen rays is shown to have an experimental basis.

Psychology of Internment.—Careful observations of prisoners of war in Switzerland, lead Bing and Vischer to describe a very characteristic psychoneurosis to which has been given the symbolical title of "psychose due fil de der barbelé," in German "Stacheldrahtkrankheit" and in English "barbed wire disease." This name seems to have originated in Switzerland, though its exact origin cannot be certainly determined; it has established itself so thoroughly that already it is to be found in international treaties. The symptoms of a neurasthenia *sui generis* are recognizable in most of those who have lived for more than six months behind the barbed wire fencing, and which in about 10 per cent. of all prisoners reach a high level of intensity. The first sign to appear is an increase of irritability. There is a great deal of quarreling. The power of concentration is greatly diminished. The prisoners complain with striking constancy that they lose their memory of people and of places, in so far as these relate to prewar events. Among the secondary symptoms are insomnia. Some prisoners complain of diminished vision. Many of them grow very suspicious. All have a marked tendency toward pessimism, and see every incident of their daily life in the gloomiest light; the worst cases often go for three or four days without speaking a word, plunged in a kind of torpor. Sexual impotence is very common. All these symptoms, once they are established, generally remain stationary, and rarely diminish so long as the internment lasts. Disturbances of memory, especially amnesia, are very marked. See also abstract p. 40.

May 3, 1919, **1**, No. 4992

*Significance and Surgical Value of certain Abdominal Reflexes. D. Ligat.—p. 729.
*Spinal Injury with Retention of Urine. P. N. Vellacott.—p. 733.
Primary Syphilis. S. F. Dudley.—p. 737.
*Treatment of Gonorrhea. H. E. Gibson.—p. 739.
War Injury from Signal Lights. W. J. Rutherford.—p. 741.
*Lung Puncture in Treatment of Influenzal Pneumonia. M. Benaroya.—p. 742.

Significance and Surgical Value of Certain Abdominal Reflexes.—Ligat emphasizes that no abdominal examination is complete unless, in addition to other clinical methods, a thorough investigation of the abdominal reflexes has been made and the results carefully noted. The skin and subcutaneous tissue are grasped firmly between finger and thumb and drawn away from the deeper layers of the abdominal wall. If an abnormal reflex is produced it is at once recognized—the patient winces, he may even cry out if a sharp response is elicited. Mackenzie has pointed out that pain is the only sensory reflex evoked in visceral disease. It follows, therefore, that all pain, except that caused by peritonitis, of which a patient complains, or tenderness that an observer may elicit, is due to a true viscerosensory reflex, and not in any way to pain or tenderness felt in the viscus itself. A pinch, which in a person with a spinal cord of normal tone would not have given rise to pain, now does so, on account of the stimulus due to the pinch being received by

a part of the cord kept in an irritable condition by undue stimuli from a diseased viscus.

The severity of the pain produced varies widely. Usually when there is general evidence of acute inflammation of a viscus the pain produced by pinching is severe, and may be elicited over a long narrow vertical band of skin; this hyperalgesic band may correspond to parts of one, two, or even three spinal segments, but by careful discrimination of the point of maximum hyperalgesia the actual organ affected can be determined in most cases. In other cases, mostly those of a chronic nature, in many of which the patient has been complaining of vague abdominal pain only, and probably quite unable to indicate its precise locality, very careful examination is necessary, the facial expression being closely watched when the skin and subcutaneous tissue are pinched. It is in these cases that this method of examination is said to be especially valuable, for, by so examining, one is virtually converting a subjective symptom into an objective sign, and in many chronic cases this is the only sign which can be demonstrated and which indicates the actual organ at fault. Sometimes actual pain is not produced, the sensation being evidently difficult to define and described as unpleasant, curious, different from other places, and so on. In all positive cases a departure from normal sensation is evident. This method of examination separates the abdominal organs for clinical purposes into two sets: 1. Lateral: Gallbladder, appendix, fallopian tube. 2. Central: Stomach, duodenum, small and great gut. Illustrative cases are cited and the whole question is discussed at great length.

Spinal Injury with Retention of Urine.—The very large number of deaths from ascending infections after catheterization renders it essential to endeavor to discover some other method of relieving the retention in cases of spinal injury. The observations made by Vellacott in sixty-six cases leads him to conclude that passive treatment, i. e., allowing distension and overflow to take place—should be given a thorough trial, and attempts at expression should be made from time to time. Assistance may be found in the administration of drugs, especially morphin, the application of heat, etc. When dribbling of urine commences, expression is usually quite easy and the bladder can be emptied partially at regular intervals. This diminishes the stretching and thinning of its walls and should allow its muscle to recover tone more rapidly. If complications of the injury (hemothorax, etc.) make it advisable to relieve the distension, temporary paralysis of the sphincter by instrumental stretching may be tried. Even moderate stretching renders expression a simpler and easier proceeding in the earlier and spasmodic stages of retention. It is of the greatest advantage that the treatment of the bladder from the date of injury until the automatic stage is reached should remain in the hands of one person.

Treatment of Gonorrhea.—Gibson is impressed that the earlier the treatment the better the chance of recovery and the less likelihood of complications. The ideal is to combine local curative treatment with general treatment to build up the patient's resistance to the disease. For local treatment one should employ irrigations with as nonirritating and at the same time as potent an antiseptic as possible. Irrigation is to be preferred to syringing, as with an irrigation it is possible not only to use a larger volume of fluid than with a syringe but also to dilate the urethra to a greater extent, and so open out the various folds and crypts in the mucous membrane and drive the entrenched organism from its dug-out. Care should be taken to avoid driving back infective material to the posterior urethra, either by complete irrigations or by use of instruments, early in the disease. The best antiseptic on the market in Gibson's opinion is flavine in strengths of 1/6000 to 1/4000. The best way of building up the resistance is with vaccines, given in large and constantly increasing doses. Medicines are useless, except to alleviate certain symptoms, such as dysuria, when they occur.

Lung Puncture in Treatment of Influenzal Pneumonia.—The treatment described by Benaroya has been employed in a series of forty-one patients, many very seriously ill. Their ages ranged from 10 months to 68 years and the patients showed all degrees of resistance. This treatment aims at determining a local accumulation of polymorphonuclear leukocytes, and so stimulating phagocytosis, by setting up a focus of irritation in the pneumonic areas. It is an application to the lung of the principle advocated by Kraske, in the local treatment of erysipelas. It may be considered analogous to laparotomy in the ascitic variety of tuberculous peritonitis. The first step is to determine accurately the situation and area of the consolidated patches. A hollow needle or trocar about 2 inches long is then introduced in the direction of the patch and allowed to remain in the lung for about thirty seconds. If more than one patch has been detected it is preferable to select the largest and to neglect the others. If the base is entirely affected, as in lobar pneumonia, or several patches of considerable size are present, a second puncture may be necessary. It was rarely needed to repeat the puncture in the above series of cases, and then only for exacerbation of the morbid process. Strict asepsis is essential. As regards the seat of election, the axillary or scapula lines are, if possible, to be preferred. As this method does not depend on the type of organism responsible it may be tried in every variety of pneumonia, influenzal, pneumococcal or even septic, following a trauma. The results in all these varieties have been favorable. A steady fall of the temperature is always to be expected, and in many cases it becomes normal in twenty-four hours.

Practitioner, London

May, 1919, **102**, No. 5

The Erect Posture. L. Williams.—p. 229.
Lichen Planus: A Review. J. M. H. MacLeod.—p. 235.
*Urinary Disturbances in Children and Adults; Cure by Electrical Methods. F. Hernaman-Johnson.—p. 239.
Neuroses and Psychoneuroses of the Sea. A. F. Grimbly.—p. 243.
Ductless Gland Therapy; Report of Cases. J. L. Masterman-Wood. —p. 259.
Reeducation of Voice after Operation for Intrinsic Cancer of Larynx. C. MacMahon.—p. 271.
*Common Causes of Persistent Headache and their Differential Diagnosis. K. Clarke.—p. 274.
Diagnosis of Syphilis; Plea for Immediate Wassermann. J. P. Walker. —p. 281.
Exceptional Recovery from Cerebrospinal Fever. D. Smith.—p. 282.

Enuresis Cured by Electrical Methods.—Almost all cases of enuresis, both in adults and children, Johnson has found to be amenable to the application of rhythmically interrupted sinusoidal or faradic current through the region of the bladder for fifteen minutes daily for a period of two to four weeks. Johnson stimulates the prostate, using a small test tube filled with water and corked. Through the cock is thrust a stiff wire, having a loop on the outside for attachment to the lead from the solenoid. The best tube is vaselined and introduced about 2 to 3 inches into the rectum. It is connected with the generator and the high-frequency current turned on for fifteen minutes. The treatment is given daily.

Common Causes of Persistent Headache and Their Differential Diagnosis.—Clarke urges that inasmuch as headache is only a symptom the cause should be sought for. He mentions cerebral tumor, eyestrain, chlorosis, nephritis, diabetes, toxic or infective states apart from specific fevers, alcohol, lead and syphilis, all probably giving rise to the pain by their direct vasomotor action on the cerebral or meningeal vessels; arteriosclerosis, hyperpiesis, meningitis, migraine and neurasthenia. Having once established the diagnosis, the case must be considered on its own merit as to treatment.

Bulletin de l'Académie de Médecine, Paris

April 8, 1919, **81**, No. 14

*Paralytic Form of Rabies. P. Marie and C. Chatelin.—p. 428.
*Transmission of Rabies to Fetus. P. Remlinger.—p. 437.
Carbon Monoxid Poisoning. V. Balthazard.—p. 439.
Sterilization with Formaldehyd. Barthélemy and G. Gross.—p. 441.

Paralytic Rabies.—Marie and Chatelin report the necropsy findings in a boy of 11 who developed symptoms suggesting poliomyelitis, a rapidly acute ascending paralysis, fatal in a few days. The child had been bitten on the upper lip by a

dog five weeks before, and a period of extreme agitation and screaming had preceded by ten days the paralysis in the legs. Necropsy disclosed acute infiltration polio-encephalomyelitis, with the typical findings of rabies, confirmed by inoculation of rabbits. Rabies has been found in 218 dogs, two cats and one horse, since Jan. 1, 1919, in the Seine district.

Transmission of Rabies to Fetus.—Remlinger reports some striking experimental experiences which confirm Konradi's statements in 1916. Animals inoculated with rabies may not display any signs of the disease for from one to three months, while their young born in the interim present rabies and may have died before the mother shows any signs of the disease. Remlinger relates that one guinea-pig thus developed rabies 122 days after the inoculation, sixty-eight days after the casting of the litter, and thirty-eight days after the death of the last one of the young. In Konradi's guinea-pigs, rabbits and bitches the interval sometimes was over a year before the animal succumbed to the rabies that yet it had transmitted to its young in the uterus. These facts throw light on cases in which rabies has been transmitted to man by an apparently healthy animal; it may be harboring the rabies virus in its blood. Young animals may be apparently healthy and yet they may have been infected in the uterus, and they may develop rabies at any moment without further contact. The fact that the young dog or other animal has never had a chance for being bitten, thus does not exclude the possibility of rabies. The experiences related suggest also that possibly the fetus might become immunized by minute amounts of the rabies virus traversing the placenta. In conclusion he suggests further the possibility that the rabies virus might in certain cases induce other clinical pictures than typical hydrophobia or paralytic rabies. We know that it may induce Landry's paralysis, and it is possible it may be responsible for certain other forms of acute mania, etc.

April 15, 1919, **81**, No. 15

Meningitis in Influenza. M. Capitan.—p. 468.
Injectable Solution of Mercury Benzoate. E. Léger.—p. 473.
*Treatment of Paroxysmal Tachycardia. C. Fiessinger.—p. 476.
*Stereoscopic Roentgen Plates. Chabry.—p. 480.
*Prison Camp Undernourishment. C. Richet, Jr., and M. Mignard. —p. 481.

Cure of Paroxysmal Tachycardia.—Fiessinger declares that it is possible to arrest an attack of paroxysmal tachycardia by impeding the entrance of air, compelling respiratory effort. One woman of 40 with pulse of 200, cyanosis, the extremities cold and the chest crowded with râles seemed moribund, but she recuperated at once when forced to breathe through an apparatus (Pescher jar) which required a respiratory effort. One man always found relief in the paroxysm by running after his auto. Later, Nature came to his aid with asthma, the paroxysms subsiding when an attack of asthma supervened, the pulse then keeping slow for forty-three hours. Another man of 51 has the attacks of paroxysmal tachycardia come on while he is walking. He then starts to get over the ground very much faster, and this always aborted the attack in his experience with ten paroxysms. In the case of one young woman, the paroxysm of tachycardia had lasted for twenty-four hours, not modified by various measures, including pressure on the eyeballs. Finally she began to do breathing exercises, and at the second deep inspiration the paroxysm was arrested. A month later the paroxysm returned when she was in the street. She stopped and took three deep breaths, exhaling very slowly. The paroxysmal tachycardia subsided immediately. Fiessinger declares that any respiratory effort, inhaling or exhaling, kept up long enough will arrest the paroxysm of tachycardia. The only thing is to breathe deep and to be strong enough to do this. A professor at the Sorbonne developed paroxysmal tachycardia during convalescence from a fever, but he was too weak to breathe deep, and compression of the eyeballs had no effect. He died the next day. A fatal outcome was also the rule when the patients had been taking drugs to combat fever. Fiessinger saw two cases of the kind in patients convalescing from influenza. The pulse ran up to 190 or 200 and the patients were unable to make the effort to breathe deep. Each had taken three or four doses of acetylsalicylic acid. The effort of vomiting may arrest paroxysmal tachycardia the same as the effort of breathing deep, but the latter is simpler and easier, and its effect is amazing, he reiterates.

Stereoscopic Roentgenography.—Chabry describes a simple method with which it is possible to get the stereoscopic effect on a single plate.

The Undernourishment in the Prison Camps in Germany.—Richet and Mignard relate that repatriated civilians and soldiers frequently present a combination of symptoms suggesting those of actual starvation plus those of deficiency diseases. Emaciation, anemia and diarrhea dominate the clinical picture. Hypertrophy of the liver is common, and the skin shows numerous infectious lesions while the aspect of certain bones and joints recalls that of rachitis in children. Bradycardia is frequent, as also polyuria with pollakiuria, irritable asthenia, and modifications in the reflex responses.

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 14, 1919, **43**, No. 6

Paralysis of Sympathetic Accompanying Aneurysm in the Neck. L. Lortat-Jacob and G.-L. Hallez.—p. 137.
*Curable Alcoholic Cirrhosis. H. Dufour and Le Hello.—p. 143.

Curability of Cirrhosis of the Liver.—Dufour and Le Hello assert that syphilitic cirrhosis of the liver is not the only form of cirrhosis that may prove to be curable. They here report two cases for which alcohol was undoubtedly responsible, and yet a clinical cure was realized under diuretics and tapping alone. The male patient was 51, and in four months he was tapped sixteen times, withdrawing an average of 16 liters each time. The woman of 50 was tapped twenty-five times within eighteen months, evacuating a total of 400 liters. Both patients have been apparently cured for over five years. No mercury or iodid was given.

Feb. 21, 1919, **43**, No. 7

Septicemia with Shiga Bacillus, but None in the Stools. G. Caussade and S. Marbais.—p. 145.
*Serodiagnosis of Typhus. E. Sacquépée and P. Delavergne.—p. 151.
The Leukocytes in Influenza. G. Lion and A. Crétin.—p. 153.

Serodiagnosis of Typhus.—Sacquépée discusses the agglutination of a strain of proteus bacilli by typhus serum. Tests with serum from fourteen patients with diseases other than typhus proved constantly negative, while agglutination occurred regularly with typhus serums. It was pronounced by the end of the first week, and persisted some time after recovery.

Paris Médical

April 12, 1919, **9**, No. 15

Historical Sketch of Paris Medical Faculty. H. Vaquez.—p. 293.
Apical Insufficiency and Large Ventricles. P. Merklen and Chuiton. —p. 306. See abstract p. 1497.

Presse Médicale, Paris

April 17, 1919, **27**, No. 22

*Fracture of Femur. E. Desmarest, G. Caldéron and M. Cañas.—p. 201.
Inter-Allies Conference on Aeronautics. G. Guillain.—p. 203.
*Treatment of Lagophthalmos. R. Leriche.—p. 205.
*Premonitory Signs of Epileptic Seizure. P. Hartenberg.—p. 205.
Gasoline Treatment of Scabies. F. Lévy.—p. 206.

Subtrochanter Fracture of Femur.—Desmarest and his co-workers state that the usual methods of treating fracture of the femur give deplorable results when applied to fracture in the subtrochanter region. This requires special measures, as they describe in detail. The main point is to apply continuous extension with bilateral abduction. Their illustrations show the principles involved and the best means to apply them.

Treatment of Lagophthalmos.—Leriche remarks that certain men with facial paralysis as the result of war wounds are particularly incommoded by the permanent inability to close their eyelids. Muscle transplantation may remedy this in some cases but is impossible in others on account of destruction of tissue. In this latter group of cases he has attacked the problem in another way; namely, by section of the cervical sympathetic which is followed by retraction of the eyeball and narrowing of the space between the lids, and

thus effectually combats lagophthalmos. He has applied this method in one case of facial paralysis dating from 1915, and the man can now close his eyes as if by volitional control, and he is *enchanté* with the result, especially as the previous intense lacrimation has subsided likewise. The operation on the cervical sympathetic was by the same technic as for exophthalmic goiter.

Premonitory Signs of Epileptic Seizure.—Hartenberg discusses the sensations: chilliness, pruritus, tickling in one nostril, neuralgia and other sensory disturbances which may herald the approach of the seizure; also the circulatory signs, the motor, visceral and secretory, and the psychic signs which warn of the impending seizure. Besides these generally known premonitory signs, he calls attention to certain phenomena in some of his patients which herald a seizure. In one, the eyes grow more brilliant and the glance fixed and strange; in another, only one eye shows this change. In one child of 4, the pupils become extremely dilated; one adult sees a spark constantly floating in front of his right eye for two days before the seizure. Another has convergent strabismus come on, and in another the seizure is preceded by the whole face being twisted to the right side. In two women, the nose becomes very red a few days before the crisis; in another, merely the nostrils grow red. In one man, the ears grow red, especially the left ear, the side of the severest spasms. One man's cheeks grow blue, and another perceives a pulse in the epigastrium just before the seizure comes on. Another man sweats profusely on the days the seizures impend. Another epileptic has chronic coryza with profuse discharge but on the day or two preceding a seizure this discharge dries up, and the man is constantly rubbing his nose. There is a constant rise in temperature of half a degree C. during the days preceding the seizure in three women of 18, 68 and 69. One feebleminded boy of 8 announces the approaching seizure by beginning to tell of grandiose schemes for the future. The ages of the patients range from 4 to 73 years. By heeding the premonitory signs, the epileptics can be saved mishaps from seizures occurring unawares, and by compiling a complete list of the prodromes light may be thrown on the nature of the seizures, and possibly means of warding them off discovered.

Revue Médicale de la Suisse Romande, Geneva

January, 1919, **39**, No. 1

Influenza at Lausanne. B. Galli-Vallerio.—p. 1.
*Hysteria or Pithiatism? F. Naville.—p. 13.
Ileus from Plum Stones Arrested by Cancer. H. Maillart.—p. 44.

Hysteria or Pithiatism?—Naville criticizes Babinski's doctrine of pithiatism as incomplete and misleading, and describes a case which is peculiarly instructive. The girl of 15 had been having for several years frequent and prolonged narcolepsy, convulsions, intermittent chorea, occasional slight mutism and functional paraplegia, with a whole train of nightmares, insomnia, paroxysmal headache, vertigo, anorexia, diverse algias, tremor, tachycardia and functional disturbances in vision, in short, an authentic case of *grande hystérie*. The whole seemed to be based on an emotional shock dating from seven years before which had been totally forgotten because it had been thrust into the subconscious sphere by the initial hysteric crisis. As soon as this emotive traumatism had been brought back to the girl's consciousness, the whole train of secondary symptoms cleared up and disappeared spontaneously, and the other functional symptoms progressively improved. There was no erotic factor evident in the case. The emotional shock to which Naville ascribes the hysteria was the disappearance of a young brother and the false news that he had been run over by an automobile. The girl has been apparently completely cured during the year or more since, having had no return of nervous troubles even during the bombardment of the city.

Deutsche medizinische Wochenschrift, Berlin

Feb. 6, 1919, **45**, No. 6

*Septic Lymphangitis and Lymphadenitis. Fessler.—p. 145. Conc'n.
*Detachment of the Retina. Birch-Hirschfeld.—p. 148.
*Silver Salvarsan and Biology of Syphilis in Man and Rabbits. E. Delbanco.—p. 150.
*Percussion of the Skull in Children. H. Koeppe.—p. 152.
*Nephrectomy with Diseased Second Kidney. M. Zondek.—p. 153.
Splint for Fractured Femur. H. Köhler.—p. 157.
*Infant Mortality in East Africa. P. Sick.—p. 158.

Lymphangitis and Lymphadenitis with Septic General Infection.—Fessler discusses tendon sheath phlegmons, felons, etc. He says of panaritium that there is scarcely any other common affection in respect to which so many sins are committed as this. The fate of the member, even life, may depend on its correct management. He warns not to wait for manifest suppuration but to cut down at the most painful spot to relieve the tissues from pressure. It is easy to determine the most painful spot by testing with the head of a probe, then cutting down to the tendon sheath the entire length of the finger. He advises blocking both the lateral nerves at the base of the finger under a tourniquet, as this shows up the wedge-shaped encroaching necrosis of the cellular tissue. This plug must be cut out to leave the focus gaping. If the stage of necrosis and suppuration has not been reached, the incision may prevent the death of the tissues. This is the only way to keep the infectious process from spreading. Antiseptic dressings, baths and hyperemia treatment aid in the healing of the focus. The suction bell helps to draw the necrotic plugs out of the felon, and the stasis hyperemia checks the lymphangitis. The dressings must be loose so as not to impede the outflow of pus. In speaking of gas phlegmons, Fessler warns that the heart must be kept stimulated but not with digitalis, as the toxins of the gas bacillus already have a depressing influence on the pulse.

Detachment of the Retina.—Birch-Hirschfeld reviews experimental research and clinical experiences with 142 cases of detachment of the retina between 1900 and 1910, with reexamination of most of the patients later. With spontaneous detachment of the retina, seen early, he applies in treatment bed rest, injection of saline and other mild measures, hoping for spontaneous reposition of the retina. If no or very insignificant improvement is observed, he proposes operative measures if the detachment affects the lower part of the retina, if the refracting media are clear enough for ophthalmoscopic supervision of the operative procedures, and if the pressure in the eye is not too much reduced, and there is no extensive tear in the region where it is proposed to operate. The functional capacity of the detached and the still adherent retina must be such that appreciable improvement is possible. The relatively slight chances for success must be fully explained to the patient beforehand. The first thing to be done is to remove the subretinal fluid. For this he prefers to trephine, cutting out a small disk, 1.5 to 2 mm. in diameter, and then aspirating the fluid. The retina can be seen then returning to its place, and with a compressing bandage it can be held in place, hoping it will become reattached. This actually did occur in 5 of 25 patients thus treated, and slight improvement was manifest in 5 others, but in 15 the progressive course of the detachment was not checked. Better results were obtained when he injected a fluid into the vitreous body to exert pressure on the retina. Various fluids have been used for this purpose, but he thought that the logical fluid for the purpose was the fluid he had just aspirated from back of the retina. As this fluid usually contains much albumin, up to 26 per thousand in his cases, he diluted it with a little saline, and thus could inject a somewhat larger volume than he had aspirated. He has applied this procedure in thirteen cases, all quite severe, refractory to milder measures, and comparatively favorable results were realized. In six of the cases there was more or less inflammation in consequence, in the interior of the eye, and this may have contributed to the favorable outcome as five in this group of patients were essentially improved. At the same time it worries the physician to behold this inflammatory process develop in a previously noninflamed eye, as exact dosage of the irritation and guarantee of its harmlessness are out of the question. Consequently in his later series he has restricted his intervention to trephining, aspiration and the compressing bandage. A spontaneous cure has been known in only

about 1 per cent. of the cases of detachment of the retina on record. Mild measures were successful in about 5 per cent., and slight improvement was realized with them in 6 per cent. In 89 per cent. they failed completely. Puncture with or without electrolysis and section realized essential improvement in 4 per cent., slight improvement in 25 per cent. and no benefit in 71 per cent.

Silver Salvarsan.—Delbanco comments with enthusiasm on the new and supposedly more harmless salvarsan preparations which are now being made. He has applied silver salvarsan in 120 cases, making a total of 550 injections, all on outpatients, and has never witnessed any untoward manifestations. Only in five cases was there a tendency to transient congestion in the head, but these patients were soon able to go home alone. He cites as important Kolle's recent statement that colloidal silver alone has a pronounced action on syphilis in the rabbit. He suggests further that the way in which the spirochetes take silver stains seems to indicate some special affinity for silver. He remarks parenthetically that it is inexplicable why the glass syringes seem to suffer from the silver salvarsan notwithstanding the colloidal character of the solution. Experimental syphilis in the rabbit has been very successful recently, even to spontaneous coitus chancres on the male rabbit. The blood of a syphilitic in the primary period, even without a positive seroreaction, injected into the rabbit testicle induces a typical primary lesion swarming with spirochetes; syphilis is thus a clinical septicemia from the very first. He adds that silver salvarsan in a dose of 0.2 gm. banishes the spirochetes from the primary lesion when examined against the dark field microscope. With half this dose, the spirochetes return the next day. He emphasizes the prompt subsidence of the florid symptoms of the first and second period under silver salvarsan in his cases; it was combined with mercury in the majority. For a single course of treatment, only from 1 to 1.4 gm. of the silver salvarsan are required. (Its official name is Silbersalvarsannatrium. Kolle says of it, "The maximal effectual dose, 0.2 or 0.3 gm., is below the threshold of danger as the arsenic content of silver salvarsan is scarcely two thirds of that of old salvarsan". . . . "The silver acts chemically as a catalyzator of the arsenobenzol molecule, and biologically as the reenforcer of the specific action of arsenic on spirochetes." He ascribes the action of mercury in syphilis merely to its rendering the tissues toxic so that the spirochetes are unable to thrive in them. He says further that the spirochetes disappear in syphilis in the rabbit in a few days after injection of 0.03 colloidal silver per kilogram, and the primary lesion soon heals. Experiments with syphilized rabbits recently have shown that the intervals between doses as well as the size of the dose have a bearing on the effect of any of the drugs tested.)

Percussion of the Skull in Diagnosis.—Koeppe states that he found a high tympanitic note and cracked pot sound on percussion of the skull of children with abnormally high pressure on the brain from different pathologic processes, brain tumors, etc., and especially with miliary tuberculosis, meningism, otitis, and sometimes with high fever, pneumonia and influenza. As the pressure was reduced under lumbar puncture the tympanitic resonance grew less. In two cases of incipient tuberculous meningitis, this tympanic resonance was the first and for a long time the only symptom.

Nephrectomy and Treatment of the Diseased Mate.—Zondek reiterates that if the functional tests show good functional capacity, even in a diseased kidney, removal of the other kidney is justified when indications call for this. He describes three cases which show how apparently irreparable conditions may be remedied. In one case one kidney was functionally useless and the other ureter became obstructed with sand. He succeeded in dislodging the sand with the ureter catheter and rinsing out the kidney, restoring clinically normal conditions on this side.

Infant Mortality in East Africa.—Sick in commenting on the recent death of J. Dannholz, a missionary in East Africa who had taken a partial medical course, states that by his efforts the infant mortality in his district had been reduced from 75 to 13 per cent.

Policlinico, Rome

April 6, 1919, **26**, No. 14

Hysteric and Organic Aphonia. P. Caliceti.—p. 418.
*Magnesium Sulphate in Chorea. R. Cavalieri.—p. 421.
*Quinin and Influenza. G. Vico.—p. 422.
*Operation for Varicocele. E. Lay.—p. 429.
Enteroptosis. A. Cantilena.—p. 429.

Magnesium Sulphate in Treatment of Chorea.—Cavalieri reports gratifying success from subcutaneous and intramuscular injections of a 25 per cent. solution of magnesium sulphate in a case of extremely severe chorea in a boy of 13. The first symptoms had been noted twelve days before. The solution was made with 4 gm. of magnesium sulphate in 16 gm. distilled water, the dose of 2 c.c. was injected two or three times in the course of the twenty-four hours. The total amount of the drug thus given daily was 1 gm. in this case, and the child was able to sleep at night. The excitement and restlessness had prevented sleep before, and the boy had had to be tied to prevent serious injury from his spasmodic jerkings. By the end of the month he was able to feed himself, and was quite restored in six weeks although left with mitral insufficiency. The magnesium injections were kept up for twelve days.

Quinin and Influenza.—Vico reports another instance of influenza sweeping down on a hospital and prostrating nearly every one connected with the hospital except the 400 malarial inmates under the influence of quinin.

Varicocele.—Lay cuts the middle part of the venous plexus between two ligatures and fastens the stumps together again like the barrels of a gun, fastening the peripheral stump to the external inguinal ring and the other stump to the base of the peripheral stump close to the testicle.

Riforma Medica, Naples

March 22, 1919, **34**, No. 12

Pathogenesis of Bacillary Dysentery. G. Costantini.—p. 225.
*Symptoms from Apex of Lung. A. Campani and F. Bergolli.—p. 230.
Recent Literature on Gastric and Duodenal Ulcer. E. Aievoli.—p. 231.

Semeiology of the Apex.—Campani and Bergolli say that in the early phases of disease of the lungs a loss of elasticity in the region of the apex may be the only sign that anything is wrong. This can be detected by the lack of expansion of the lung at the apex when the subject sits up in bed, after long horizontal reclining. Auscultation shows that the respiration sounds at the apex on the suspected side are scarcely if at all audible. Gradually, in the course of about two minutes, the respiration sounds at the apex become audible, but they are not symmetrical at first. Gradually, however, the difference between the respiration sounds grows less and less, and they become symmetrical. This temporary asymmetry in the breathing sounds during the transition from the horizontal to the sitting positions seems to be an instructive sign of incipient pulmonary tuberculosis. Comparison of the pulmonary breathing sounds with the tracheal breathing sounds is also instructive for delimitation of the apex. The point where the apex murmur is first heard, in ausculting from the neck slanting downward, is marked on the skin. This point is lower the more pathologic the apex, as a rule, although with diffuse processes the faintness of the respiration is more instructive as the outlines of the apex are less distinct.

March 29, 1919, **35**, No. 13

Prophylaxis of Venereal Disease. R. Stanziale.—p. 245.
Manganese Preparation in Treatment of Hypopyon Keratitis. R. Marinosci.—p. 248.
Errors in Diagnosis with Abdominal Wounds. E. Santoro.—p. 254.
*Disturbances from Displacement of Uterus. E. Aievoli.—p. 262.

General Disturbances from Displacement of the Uterus.—Aievoli discusses the symptoms which can be traced to displacement of the uterus, saying that considerable skepticism is unavoidable with extragenital symptoms. Neuropathies ascribed to backward displacement can generally be explained by an unstable nervous and mental state; this depends more on infantilism than on the static anomalies in the genital sphere. But metrorrhagia and abnormal menstruation are

liable from the interference with the circulation of blood and lymph which is inevitable with retrodeviation plus flexion, and the abnormal bacteriologic conditions likely to result. Retrodeviation may exist without these, and there may be no signs of stasis and congestion even with retrodeviation and the above conditions. The danger of retrodeviation for pregnancy often turns the scale in favor of intervention in dubious cases.

Rivista Critica di Clinica Medica, Florence

March 15, 1919, **20**, No. 11

*Local Epidemic of Goiter. P. Rondoni and A. Bellini.—p. 121. Cone'n.

March 22, 1919, **20**, No. 12

Simplification of Kjeldahl Test for Nitrogen. E. Pittarelli.—p. 133.

Epidemic of Goiter.—Rondoni and Bellini relate that goiter suddenly appeared in a district near Florence where its endemic presence had not been previously known. Eleven of those affected were given ten drops of tincture of iodin daily, and three were treated with salol and benzonaphthol, each 2 gm. per day and later with 1 gm. of thymol. This intestinal sterilization did not show any effect on the goiter, while in all those taking these small doses of iodin the goiter retrogressed, and in some completely disappeared. No factors could be discovered which could be regarded as responsible for the novel epidemic, unless possibly the weather in this season might have checked the growth of certain plants which normally supply iodin to the air or to the food. But this does not explain why the twenty cases were restricted to one small district.

Brazil-Medico, Rio de Janeiro

March 8, 1919, **33**, No. 10

*Roentgen Finger Prints. J. A. G. Fróes.—p. 73.
*The Microbe of Venereal Granuloma. H. de B. Aragão.—p. 74.
*Gastroptosis. O. Clark.—p. 77.

Finger Roentgenograms for Identification Purposes.—Fróes regards as important progress in anthropometric identification, Béclère's recent endorsement of "anthropometric radiography of the thumb" as a further form of identifying records. Fróes suggests, however, that it would be better to include the outline of the nail, and not to restrict the records to the thumb. This *roentgendactyloscopia onychographica*, with the outline of the finger nail and of the terminal phalanx, adds thus two new important and specific elements to the record.

The Microbe of Venereal Granuloma.—Aragão states that the encapsulated bacillus, which he, with Vianna, found as the characteristic germ of venereal granuloma, is the same as Donovan's bodies. As its morphology and mode of scission differ from those of other microbes, they regard it as a new species and in their publications on the subject in 1912 they named it the *Kalimmato bacterium granulomatis*. He reports now that their further research has confirmed their statements on its mode of reproduction, its reactions and parasitism.

Gastroptosis.—Clark remarks that the surgeons in Brazil are living in a vicious circle; they have a high death rate because they do not see patients with chronic abdominal affections until they are in an advanced stage of the disease, and, on account of the high death rate, they do not get the patients in time for successful operations. In the United States, he adds, the surgeons live in another sphere, with fine statistics on account of early operations, and a chance for early operations on account of the low death rate. Brazil has great surgeons, he reiterates, but they can operate only for complications, seldom for the primary affection. He describes three cases of gastroptosis which represent the three schools of opinion on gastroptosis. One was a case of asthenic dyspepsia requiring merely the Weir Mitchell treatment for complete subsidence of all the previous distressing disturbances. In the second case severe symptoms for three or four years, gastralgia and gastroptosis with extreme dilatation and retention, and finally melena were ascribed to a duodenal ulcer. The laparotomy showed the veins in the stomach very turgid but otherwise the stomach and the duodenum were apparently sound, and after gastropexy all disturbances subsided at once and permanently. These two cases show that both Stiller and Rovsing are correct in their assumptions in certain cases, and that one single law cannot apply to all. In a third case, symptoms from the stomach indicated gastric ulcer accompanying gastroptosis, without the least tenderness at McBurney's point, but the laparotomy revealed the upper digestive tract sound, except for the gastroptosis, while the appendix was found chronically diseased. Complete cure followed gastropexy plus appendicectomy.

Cronica Medica, Lima

February, 1919, **36**, No. 668

*Treatment of Gastroduodenal Ulcer. E. Odriozola.—p. 31.
Malarial Psychoses. C. A. Bambarén.—p. 37.
Identity of Cuchipe and Yaws. J. F. Martinez.—p. 45.
Pathologic Anatomy of the Lymphatic Gland. O. Hercelles.—p. 53.

Gastroduodenal Ulcers.—Odriozola emphasizes the necessity for the physician to be calm and reassuring when summoned to a patient with hemorrhage from the bowel and other signs of gastro-intestinal ulceration. These hemorrhages scarcely ever prove fatal, and are arrested usually by enemas of hot water (45 C. or 113 F.) with 0.01 gm. opium every two hours, or an injection of morphin to relieve the pain which usually preceded the hemorrhage and persists. He protests against saline enemas or infusion as the salt tends to increase the secretion of gastric juice. Thirst is combated by moistening the lips with glycerin and giving a little ice to suck or lemon juice.

Medicina Ibera, Madrid

March 22, 1919, **6**, No. 72

Radium Treatment of Skin Diseases. E. A. Sainz de Aja.—p. 249. Cont'n.
Grave Ulcerating Syphilitic Lesions. Sicilia.—p. 253.
Deep Abscess in Neck from Spontaneously Healing Mastoiditis. F. Casadesus.—p. 254.

Prensa Medica Argentina, Buenos Aires

March 10, 1919, **5**, No. 28

Bronchopathy from Inherited Syphilis. Castex and Romano.—p. 274. Cont'n.
*Nerve Elements in Auriculoventricular Bundle. P. M. Barlaro.—p. 277.
*Nationality and Dementia Praecox. F. Gorriti.—p. 282.

Nerve Elements in the Auriculo-Ventricular Bundle.—Barlaro gives twelve illustrations of the heart and the microscopic findings in the auriculo-ventricular bundle, and protests that too much importance is assigned to the bundle of His and not enough to the intracardiac nervous system. He theorizes to explain the birth of the auto-impulse, ascribing it to the system of minute nerve ganglia seen in the microscopic sections of the bundle of His in cattle.

Nationality and Dementia Praecox.—Gorriti states that among 1,410 cases of dementia praecox at the National Insane Asylum of Argentina, twenty-six nationalities are represented. Foreign nationalities form over 50 per cent. of the total although their population is so small compared with the Argentine population. The principal contingents are Spanish, 279 to a population of 512,742; Russian, 32 to 54,956 and Italian 275 to 587,497. Many of the dements born in Argentina have foreign parents. Consequently immigration is an important factor in mental disease in countries with much immigration. He comments that the persons that take the step of emigrating are usually more adventurous and unstable members of a community, easily influenced by the example of others' emigrating, and liable to suffer from the change in customs and habits, the disappointments and hardships of the new life, especially in the cities.

Reforma Medica, Lima

February, 1919, **5**, No. 54

Care of the Insane in Peru. B. Caravedo and others.—p. 19.

March, 1919, **5**, No. 55

Case of Relapsing Fever at Lima. C. A. Zevallos.—p. 35.
Influenza at Lima. R. F. Córdova.—p. 37.
Chemistry of Stomach Pathology in Andalucia (Spain). F. F. Martinez.—p. 39.

Repertorio de Medicina y Cirugia, Bogotá

March, 1919, **10**, No. 6

*Encysted Peritonitis in Upper Abdomen. R. Franco F.—p. 284.
*Pyelitis in Children in Bogotá. J. Bejarano.—p. 293.
Indications and Technic for Venesection. R. Sanmartin L.—p. 302.

Encysted Peritonitis.—Franco evacuated a collection of pus in the cavity formed by the greater and the lesser omentum and the posterior aspect of the stomach. It had formed a round, almost fluctuating mass, filling nearly the whole of the upper half of the abdominal cavity, with dulness except where the stomach had been pushed up. Both the purulent pleurisy and the encysted peritonitis were the work of the pneumococcus, and had been preceded not long before by influenza. The best mode of access was through the gastrocolic omentum.

Pyelitis in Children in Bogotá.—Bejarana says that in no other pathologic entity is there so much vagueness and imprecision as in pyelitis in children. It is often masked by the primary disease responsible for it, especially gastrointestinal disease in young children. Polyuria, particularly at night, and a milky appearance of the urine are the most suggestive manifestations, aside from the pyuria. The mothers—"those great empiric clinicians"—tell the physician that the child "wets a little more than usual in the night." Pain in the costovertebral angle and at Bazy's point is a useful sign when present, suggesting involvement of the ureter. A tendency to edema of the legs was always evident in his cases, even on a salt-free diet. He comments on the great frequency of pyelitis in children at Bogotá; it is liable to follow typhoid, influenza, pneumonia and enteritis. Possibly the climate has something to do with its prevalence there. In all his cases and those he has heard of from others, the children were all girls, the age from 6 months to 7 years. The pyelitis seems to take a long time to heal at Bogotá, ten or more months elapsing—at least in his cases—before he could affirm a definite cure. After the acute phase was past, in one case the pyelitis seemed to slumber for two months and then the symptoms all returned without appreciable cause. In all the cases of this kind, the primary disease had been intestinal infection. One child of 15 months still has this recurring pyelitis which first developed at 6 months. None of his cases have terminated fatally. He has found potassium citrate effectual in transforming the reaction of the urine to alkaline, the fever subsiding and diuresis becoming profuse under it. When a purgative is given, this diverts water away from the kidneys, and the symptoms of pyelitis flare up again. There is no specific remedy, and treatment can be only tentative.

Revista Clinica, Medellín

June, 1918, **3**, No. 9

*Appendicectomy in Colombia. A. Castro.—p. 394.
*Slow Endocarditis. L. Posada Berrio.—p. 430.
Suppurating Phlebitis after Hysterectomy for Incipient Cancer of Cervix. A. R. Moreno.—p. 437.

Appendicectomy in Colombia.—Castro refers merely to the state of Antioquia, in Colombia. He reviews 228 appendicectomy operations that have been done there up to November, 1917. The appendicitis was traced to gonorrhea in a large number of cases in women, and appendicitis seemed to occur frequently in the pregnant. The appendix was often involved in right tubal pregnancy.

Slow Endocarditis.—Berrio comments on the constant stereotype picture presented by this disease, and yet its comparative rarity causes the symptoms to be frequently ascribed to everything but the right cause. There is almost invariably a history of acute articular rheumatism in the past, and some recent tonsillitis or other acute infection. Purpura never fails to develop at some stage of the process, and joint disturbances, enlargement of the spleen and the heart lesions are explained by the streptococcus in the blood. A case recently encountered presented also the typical painful red nodules in the fingers which some regard as pathognomonic. The pulpa of the fingers or toes is a frequent site of nodules. They may suggest an incipient felon. Painful red patches may be found on the limbs or trunk. Death occurs in from four to twelve months.

March, 1919, **3**, No. 11-12

*Dyspnea in Relation to Abdominal Cancer. Braulio Mejia.—p. 511.
Gangrene of the Extremities. Gil J. Gil.—p. 554.
Present Status of Our Knowledge of the Thyroid Bodies. A. Castro.—p. 560.

Dyspnea with Abdominal Cancer.—Mejia has noticed sudden difficulty in breathing as a prominent symptom with abdominal cancer, and is convinced that there is a causal connection between them. Sudden, unexpected dyspnea coming on without apparent cause in an elderly person has often proved the first appreciable warning of an abdominal cancer. In one case the dyspnea appeared suddenly during the night in a women of 68 without pathologic antecedents. The suspicion of gastric cancer was confirmed by the course of the case, the woman dying in six weeks with symptoms suggesting acute dilatation of the heart. In another case a man of 70, known to have long had a perfectly compensated valvular lesion and living a most hygienic life, suddenly developed dyspnea. Failing compensation was assumed until palpation revealed a tumor in the liver, already inoperable. Loss of appetite and weight during the last two months had not been heeded until the sudden attack of suffocation. Mejia ascribes the dyspnea to some toxic action on the centers in the medulla, and warns that a sudden attack of suffocation, without known cause, in the elderly, should always suggest the possibility of abdominal cancer.

Revista Española de Med. y Cir., Barcelona

February, 1919, **2**, No. 8

Relations Between Obsessions and Manic-Depressive Psychoses. R. A. G. Salazar.—p. 60.
*Treatment of Infections in General. A. Arteaga.—p. 66.

Treatment of Infections in General.—Arteaga declares that we cannot rely on vaccination to protect us against all infections as the results are uncertain in some and dangerous in others. But we can all guard against disseminating and contracting infection. The hands, the mouth and the nasal passages of patient and attendants can be repeatedly cleansed and disinfected. Hygiene rather than pharmacology is needed, stimulating the kidney and skin functioning and exaggerating the intestinal. He advises to refrain from all food during the first twenty-four or forty-eight hours, but sweetened lemonade should be given freely to act on the kidneys. The infection may be called an acute microbian anaphylaxis, and it should be treated along the same lines as any anaphylaxis, warding off exogenous toxins and promoting the elimination of the endogenous. He warns that fever alone, without unconsciousness or "limping" of the heart, does not require special treatment. Fever in itself is not dangerous, as is evidenced by the absence of delirium, stupor and convulsions in children with temperature running up suddenly to 104 F. He warns further against abuse of cool baths. He does not give them in typhoid, merely keeping the skin cool and clean, and has never had cause to regret it.

Revista Medica, Pueblo, Mexico

March, 1919, **1**, No. 8

Paracolon Bacilli and Paratyphoid Infections. J. Terrés.—p. 169.
*Treatment of Parasitic Diseases of Scalp. R. E. Cicero.—p. 177.
Transposition of Viscera. C. Govea.—p. 181; I. Farquet.—p. 182.

Treatment with Thallium Acetate of Parasitic Disease of the Scalp.—Cicero lauds roentgen treatment as superior to all other methods in treatment of ringworm, etc., as time and experience have confirmed Sabouraud's pioneer work in this line. But, as Cicero remarks, roentgen treatment is not always available, while excellent results can be obtained with thallium acetate which Sabouraud had been recommending before he turned to roentgen treatment. Cicero now has a record of 354 cases of alopecia treated with thallium acetate. It was effectual in causing the dropping out of the diseased hairs, after which the hair grew again apparently normal. He gave it internally, as a rule, in a 5 per cent. aqueous solution; two drops of this are equivalent to 0.005 gm. of thallium acetate, and he gives as many drops as is represented by twice the number of kilograms of the child's weight. The smallest dose given was 0.07 gm. to a girl that weighed 14 kg. and the largest, 0.195, to a

woman that weighed 39 kg. No untoward by-effects were observed, while the hair grew in again afterward. The lashes and eyebrows did not drop out, as also the hair that had grown again after roentgen depilation. The hairs did not drop out after taking the thallium until an interval of two weeks had elapsed. The only by-effect was occasional profuse salivation.

Revista de Medicina y Cirugia, Havana

Feb. 25, 1919, **24**, No. 4

*Intestinal Delineator. M. Einhorn (New York).—p. 87.
*Indications for Operation with Bilateral Ureter and Kidney Lithiasis. J. A. Presno y Bastiony.—p. 93.
Factitious Conjunctivitis. F. M. Fernández.—p. 100.

Intestinal Delineator.—This article was the substance of an address by Einhorn at a meeting of the Academia de Ciencias Medicas, at Havana. It is accompanied by fourteen roentgenograms showing the delineator at different points on its way through the bowel.

Bilateral Ureterorenal Lithiasis.—Presno discusses the indications with bilateral lithiasis, and reports the case of a woman of twenty-six who had had kidney colics at times since the age of 14. She had borne four healthy children. In 1917, nephrostomy was done on the right kidney. She was free from pain for forty-one days, Then the pain returned and has persisted since. She never had pain in the left kidney but the roentgen rays showed a large calculus in the pelvis of the left kidney although it had never made its presence felt and would have escaped detection except for the roentgenoscopy. The operation included extraperitoneal ureterolithotomy on the right ureter, followed by pyelotomy and pyelostomy for the silent calculus in the left kidney. The pains and disturbance in the right kidney proved to be merely reflex phenomena from the stone impacted in the ureter.

Revista de Medicina y Cirugia Practicas, Madrid

Feb. 14, 1919, **122**, No. 1542

Vaccine Therapy or Lymph Therapy in the Thoracic Complications of Influenza. D. H. Villalobos.—p. 161.

Revista Medico-Cirurgica do Brazil, Rio de Janeiro

October and November, 1918, **26**, Nos. 10-11

Influenza in Brazil. C. Seidl.—p. 435; C. Seidl and others.—p. 473.
Prophylaxis of Cholera. C. Seidl.—p. 500.
The Trade in Rags. Its Dangers and Prophylactic Measures. M. de Abreu.—p. 503.

December, 1918, **26**, No. 12

Report of Chief of Public Health Service in Brazil, 1912-1918. C. Seidl.—p. 517.

Semana Medica, Buenos Aires

Feb. 13, 1919, **26**, No. 7

Film Treatment of Burns. O. Ivanissevich and H. Gregorini.—p. 157.
*Topical Treatment of Pleurisy. A. Cetrángolo.—p. 161.
Increasing Prevalence of Pulmonary Tuberculosis. E. R. Coni.—p. 165.
Toxicologic Study of Aconitin. L. P. J. Palet.—p. 166.
*Poisonous Anise. T. A. Tonina.—p. 167.
*Signs of Uremia. G. Giacobini.—p. 170.
Cholera and Yellow Fever at Buenos Aires in Nineteenth Century. G. Rawson.—p. 171.
Geologic Possibility of Biogenesis by Infiltration of Salt Solutions. A. L. Herrera.—p. 172.
Insufflation of Iodoform Effectual Treatment of Nasal Myiasis. A. Iarcho.—p. 175.

Topical Treatment of Pleurisy Without Effusion.—Cetrángolo reports several cases of pleurisy in which he applied the technic for making an artificial pneumothorax, thus injecting air directly into the focus of the disease. By insufflating 100 c.c. of air in cases of plastic pleurisy, the pain and friction sounds subside, the distention stretching the adhesions. The pain is increased the first day, but then usually disappears completely. From one to three insufflations are made at weekly intervals, with progressive improvement. In some cases the air was medicated, that is, it was passed through cotton moistened with 2 per cent. camphorated oil. One insufflation of 100 c.c. of the camphorated air cured one man with severe pains in the shoulder, worse during repose and at night. The pain increased after the insufflation, but by the next day had vanished permanently. One man with tuberculous lesions in both lungs and intense pain in the right side was insufflated with 120 c.c. of air. The pains grew worse for two days and then vanished completely. Cetrángolo thinks that he is the first to apply topical medication to suspicious pleurisies with the artificial pneumothorax technic.

Convulsions After Taking Anise Tea.—Tonina gives the details of the cases mentioned in the Buenos Aires letter, p. 1309, in which children developed convulsions after drinking tea made from anise. The drug proved to be a poisonous kind of anise. The convulsions were accompanied by acute dilatation of the stomach, an actual ileus, with cyanosis.

Excessive Salivation as Sign of Uremia.—Giacobini calls attention to the intense salivary secretion which he has found accompanying uremic phenomena, rising and falling with them. In the graver cases there may be a sensation of the taste of urine in the mouth, changing to a salty taste as the uremia grows less intense. Some patients assert that milk tastes salty to them. There is also a tendency to fever at times with uremia, and hiccup.

March 13, 1919, **26**, No. 11

*Fracture of the Clavicle. A. Gutiérrez.—p. 253.
Whole Grain Bread. A. d'Alessandro.—p. 259.
*Resistance of Morphin and Cocain to Putrefaction. L. P. J. Palet.—p. 263.
Seashore School for Weakly Children. G. Sisto.—p. 264.
Psychophysiology of Aviators. J. A. López.—p. 270.
*Thyroid Sterility. G. Giacobini.—p. 272.
*Ampules with Visible Index of Sterilization. S. Cambronero.—p. 277.

Fracture of Clavicle.—Gutiérrez describes the various methods for treating fracture of the clavicle, and reports the details of twelve cases in which he applied Lejars' figure-8 plaster bandage, with eminently satisfactory results.

Morphin and Cocain in Putrefied Tissues.—Palet relates that morphin resists putrefaction well, as he was able to determine its presence in the putrefied tissues after seven months in a case of chronic addiction to morphin, and after two years and a half in a case of acute poisoning. Cocain (or products of its transformation) was found in the tissues seven months after death. The red tint assumed by the viscera when treated with Dragendorff's sulphuric acid method is a reliable sign of the presence of morphin.

Thyroid Sterility.—Giacobini has demonstrated the existence of sterility from ovarian insufficiency, and he now presents evidence to the effect that thyroid insufficiency may also be responsible for sterility. In the first of two typical cases, the woman, after bearing a healthy child developed constant headache and metrorrhagias, indicating thyroid insufficiency, and there was no further conception. In the second case the woman presented evidences of thyroid insufficiency and had never conceived during her eight years of married life. Under thyroid treatment their symptoms promptly subsided, and both women became pregnant soon after.

Index for Sterilization of Ampules.—Cambronero suggests that each ampule for intravenous use should have in the fluid inside a small glass tube containing some substance which does not melt until a given, very high temperature is reached. Then, if a scrap of some solid dye is incorporated in this solid substance we have an index which will show if the contents of the ampule have been properly sterilized. When the sterilizing temperature is reached, the solid in the glass tube will melt; this will dissolve the scrap of dyestuff, and the whole contents of the little tube will be stained throughout in their melted fluid condition. As they solidify again, the diffuse tint guarantees that at least the actually sterilizing temperature for the ampule has been attained.

Siglo Medico, Madrid

March 1, 1919, **66**, No. 3403

*Increasing Death Rate in Spain and Lower Birth Rate. J. G. Ocaña.—p. 165.
Varicella and Benign Smallpox. B. H. Briz.—p. 167.
Treatment of Bronchopneumonia with Therapeutic Catalysis. L. C. Cambon.—p. 168. Cont'n.
Introduction to Study of Operative Surgery. J. G. Capdevila.—p. 172.
The Sanitary Crusade. J. F. Rodriguez.—p. 178.

Vital Statistics in Spain.—Ocaña states that the death rate in Spain was 21.6 per thousand inhabitants in 1912 but gradually it increased to 26.14 in 1917. The birth rate in the corresponding years declined from 31.6 to 29.02. The birth rate in the cities in 1918 was only 26.01.

Vida Nueva, Havana

February, 1919, **11**, No. 2

Malignant Influenza in Cuba. E. F. Pla.—p. 26.
Local Anesthesia for Resection of Nasal Septum. E. R. Arellano.—p. 31.
Insanity in the Colored Race. A. Feria.—p. 35.

Nederlandsch Tijdschrift v. Geneesk. Amsterdam

Feb. 22, 1919, **1**, No. 8

Choice of a Trade and Classification of Workers. F. Hijmans.—p. 577.
*Artificial Knee. J. van Assen Jz.—p. 585.
The Future of the Medical Society. H. Brongersma.—p. 590.
Typhus without Exanthem. G. J. van Thienen.—p. 596.

Artificial Knee with Automatic Control.—Van Assen gives an illustrated description of the device which gives unusually good control of the artificial leg.

Hospitalstidende, Copenhagen

Feb. 5, 1919, **62**, No. 6

*Direct Method for Platelet Count in the Blood. O. Thomsen.—p. 161.
Magnesium Sulphate in Tetanus. J. Nordentoft.—p. 169.

Direct Blood Platelet Count.—Thomsen comments on the unreliability of the usual methods in vogue for determining the blood platelet count, and describes a method which seems to be quite accurate. He found with it a blood platelet content of from 206,700 to 413,400 in healthy persons, the average being below 300,000. He examined sixty-eight persons, sick and well, including some with infectious diseases. In the latter the platelet count was high. His method consists in preventing coagulation in the blood by adding a little sodium citrate, then setting aside until the corpuscles have settled to the bottom, and then counting the blood platelets in the citrated plasma above. The platelets do not settle down until after several hours, while the corpuscles settle not only by their own weight but by the influence of agglutination of which there is always more or less in different specimens of blood. He gives formulas and tables to facilitate the computations.

March 19, 1919, **62**, No. 12

*Deforming Spondylitis in Relation to Sciatica. H. I. Schou.—p. 365.

Spondylitis Deformans and Sciatica.—Schou reports 15 cases of neuralgia in the legs in which there were evidences of deforming spondylitis, most pronounced in the lumbar portion of the spine. Twelve of the patients were men from 50 to 81 years old, with one man of 37 and one of 40. They were classed as cases of sciatica, but the pains were localized in the domain of the femoral nerve, and increased during exercise. In 2 of the men the pains were bilateral. There was tenderness over the sciatic nerve in most of them, but in 2 there were no tender points to be found, although the pains were severe; in one case there was tenderness in the lumbar musculature. The pains started in the lumbar region, and there were frequent periods of remission.

Points like these, in which the neuralgia differs from ordinary sciatica, call for roentgen examination of the spine in such cases. The evidences of the spondylitis were most marked in the lumbar region, that is, near the lumbar plexus and where the upper roots of the sciatic nerve emerge from the spinal canal. Reexamination a few months to four years later showed that 5 of the 12 patients had quite recovered, 5 still had pain when exercising, and 2 of the patients were still incapacitated by their affection. The exostoses with deforming spondylitis may merely impede the circulation and thus induce the neuralgia without direct compression of the nerve, or the nerve root may degenerate under the influence of compression and the neuralgia finally disappear. In a further series of 3 cases, roentgen examination showed a single large exostosis on the spine or sacrum, in men or women between 54 and 56, with symptoms of sciatica on the same side as the exostosis.

March 26, 1919, **62**, No. 13

*Necropsy after Reduction of Hip Joint Luxation. H. Scheuermann.—p. 393.
*Semicentennial of First Publication on Adenoid Vegetations. E. Schmiegelow.—p. 398.

Necropsy Findings in Hip Joint After Bloodless Reduction.—Scheuermann gives the roentgen and necropsy findings in the case of a little girl, not quite 4, who died from pneumonia nine months after correction of congenital dislocation of both hip joints. The conditions approximated normal almost completely. The upper capsule pocket in which the head had previously rested had shriveled and shrunk until not a trace of it remained. Among the lessons taught by this case is the imperative necessity for solid fixation with plaster after reduction, as the upper margin of the deformed acetabulum is weak, and the retention of the head in its socket is due almost exclusively to the shriveling of the capsule pocket and the development of the glenoid ligament, both of which occurred faultlessly in this case. The cast must include the trochanter, and the correct position of the head should be verified with roentgen examination after a month. He adds that in every case it is important to place the femur from the very first in right-angled abduction and outward rotation. This is the only way to ensure the development of the glenoid ligament and the shriveling of the capsule which are indispensable to successful retention of the head.

Semicentennial of First Report on Adenoid Vegetations.—Schmiegelow's address was delivered at a special meeting of the Danish Otolaryngologic Society in honor of the semicentennial of H. W. Meyer's pioneer publication on adenoid vegetations. He discusses the importance of these vegetations for otology and medicine in general, and recalls that Meyer's first communication on the subject appeared in this same journal, the *Hospitalstidende*, Nov. 4, 1868. Meyer died in 1895, nearly 71 years old, after seeing his assertions in regard to adenoid vegetations confirmed the world around.

Hygiea, Stockholm

Feb. 15, 1919, **81**, No. 3

*Convalescent Serum in Prevention and Treatment of Influenza. L. Ehrenberg and A. Barkman.—p. 113.
*Bacteriology of Stools of Fishes. H. Huss.—p. 125.

Serotherapy in Influenza.—Ehrenberg injected 40 c.c. of convalescent serum by the vein in twenty cases of influenza. The results were disappointing.

Bacteriology of Stools of Fishes in Relation to Tests of the Water.—Huss discusses whether the bacteria in the stools of fishes could modify the response to Eijkman's fermentation test of water. In research on twenty-four living and thirteen dead fishes, the bacteria from the stools of the fish did not seem to have any influence on this fermentation test.

Ugeskrift for Læger, Copenhagen

March 6, 1919, **81**, No. 10

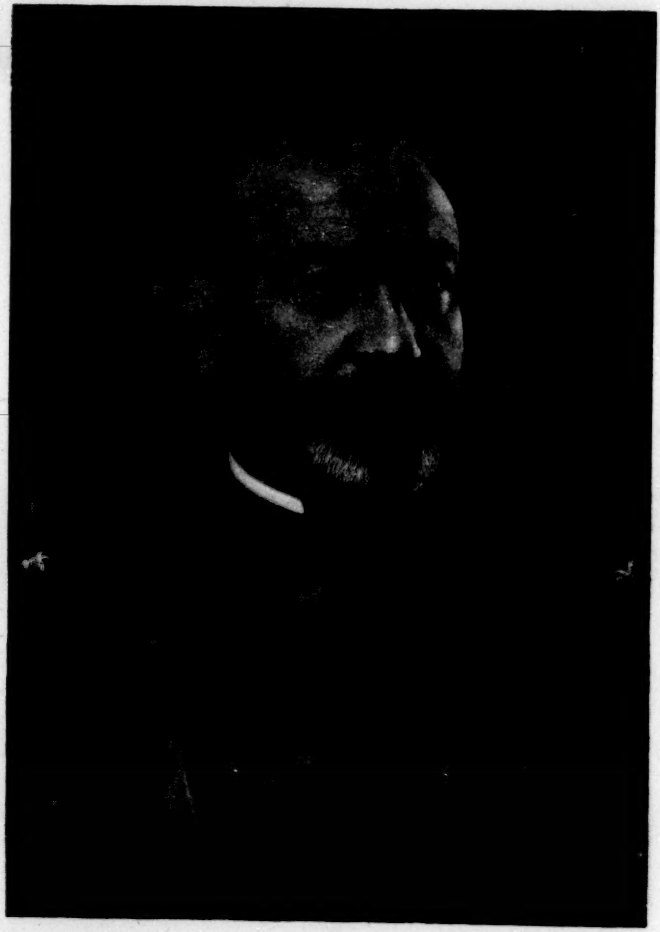
*Infectious Jaundice. Juul.—p. 431.

Infectious Jaundice.—Juul remarks that comparatively little has been published in Denmark on this subject, and the reports have labeled the disease catarrhal icterus or epidemic jaundice but the nature of the disease was not determined. The discovery elsewhere of the icterohemorrhagic spirochete has cleared the way for effectual treatment and prophylaxis. The present status of our knowledge on the subject is reviewed.

March 20, 1919, **81**, No. 12

*Pus Content of Urine. C. Jørgensen.—p. 509.

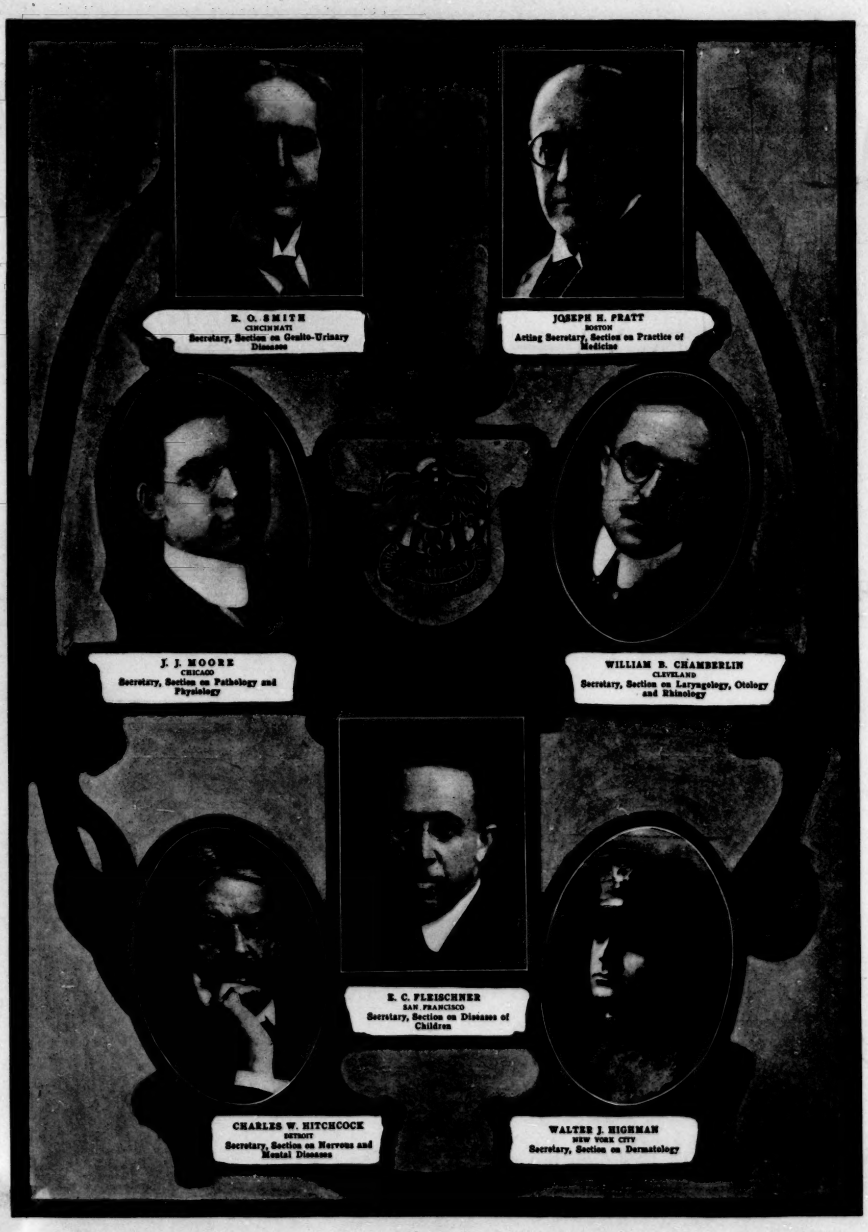
Quantitative Determination of Pus in the Urine.—Jørgensen expresses surprise that greater attention is not paid to the quantitative determination of pus in the urine now that Norgaard has given us a reliable method for the purpose. He mixes hydrogen dioxid with the urine, collects the oxygen that is released and measures the total at the end of three hours. The number of cubic centimeters of oxygen per 1 c.c. urine is the index of the catalase action, and hence throws more light on suppurative disease in the urinary apparatus.



Cary Nelson Lambert

PRESIDENT AMERICAN MEDICAL ASSOCIATION, 1919-1920

SOME OF THE SECTION OFFICERS—1919



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